

Conboy Lake and Toppenish

National Wildlife Refuges

Combined Preplanning Report

September 20, 2010

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Conboy Lake National Wildlife Refuge Vision Statement

Conboy Lake National Wildlife Refuge's lush seasonal marshes and vibrant forested uplands gleam at the base of the iconic snow-capped Mount Adams. Camas and buttercup blossoms sway throughout a wet meadow canvas awash with vibrant colors. The ancient trumpeting of Sandhill cranes echoes throughout the Refuge as they descend homeward. As a national wildlife refuge, this living system will continue to satisfy our longing for splendor and serenity as it did for the indigenous peoples, explorers, loggers and ranchers who were first drawn to the valley's plentiful resources.

The rich habitat diversity of Conboy Lake Refuge will sustain thriving populations of migrating waterfowl and other wildlife. Refuge habitat will play a key role in the long-term recovery of greater Sandhill cranes and Oregon spotted frogs.

Together with our friends, partners and neighbors, applying sound scientific principles will manage and protect the biological integrity of refuge wildlife and habitats. We envision the continued development and enhancement of inspiring wildlife-dependent recreation opportunities for our visitors, providing them with a window into this living heritage. The refuge will be a source of pride for the local community and instill a sense of ownership for all those who visit, forever underscoring the importance of protecting lands for wildlife conservation and the mission of the National Wildlife Refuge System.

Toppenish National Wildlife Refuge Vision Statement

An oasis in the desert, Toppenish National Wildlife Refuge will continue a history of conservation, protection and restoration for its intricate mosaic of wetlands and uplands. These habitats will provide a bounty for the ducks, geese and other migratory birds and wildlife that rely on the refuge for nesting, resting and feeding areas. Anadromous fish will flourish within the reaches of a robust Toppenish Creek, and the refuge will be the example of the bond between a creek and its floodplain.

Toppenish National Wildlife Refuge is a place where people of all cultures and abilities can experience nature and share outdoor traditions. With the collaboration of our conservation partners, the refuge will apply sound, scientific principles to sustain the long-term ecological health and integrity of Toppenish Creek floodplain habitats; expand environmental education; encourage participation in wildlife-dependent recreation; protect and interpret unique cultural resources; and foster natural and cultural resources stewardship. Toppenish National Wildlife Refuge will add to the richness of the broader community by holding in trust a portion of the natural heritage of the Yakima Valley for the continuing benefit of the American people.

Conboy Lake National Wildlife Refuge Establishing Authorities and Acquisition History

Established 1964

Background

The authorities under which the Conboy Lake National Wildlife Refuge (CLNWR) was established, its acquisition history, and the refuge's purposes are included within one document as their research and documentation are intertwined. The U.S. Fish and Wildlife Service's (FWS) national refuge purposes database and files within the Realty Division in the Portland Office were the main source of the information contained here.

CLNWR was established in 1965 with the purchase of the purchase of the 920-acre Dilling Tract, although the authorization for its establishment was granted during the August 10, 1964, quarterly meeting of the Migratory Bird Conservation Commission (MBCC). The minutes of the MBCC is the sole establishing documentation for the CLNWR; there have been no public land orders, executive orders, etc., related to CLNWR.

General Refuge Establishment Authorities

Executive Order 9337 – April 24, 1943. This Executive Order of President Franklin Roosevelt authorized the Secretary of the Interior to withdraw and reserve lands of the public domain and other lands owned or controlled by the United States.

Executive Order 10355 – May 26, 1952. President Harry Truman's Executive Order delegated to the Secretary of the Interior the authority of the President to withdraw or reserve lands of the United States for public purposes. This Executive Order superseded Executive Order 9337 of April 24, 1943.

Migratory Bird Conservation Act (Public Law 70-770) – February 18, 1929. "A commission to be known as the Migratory Bird Conservation Commission . . . is created and authorized to consider and pass upon any area of land, water, or land and water that may be recommended by the Secretary of the Interior for purchase or rental [as sanctuaries for migratory birds]. The Secretary of the Interior may . . . purchase or rent such areas or interests therein as have been approved for purchase or rental by the Commission . . . [or] . . . acquire . . . any area or interests therein . . . which he determines to be suitable for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. . . ." The funds for the purchase of lands and interests in lands was subsequently greatly expanded through the Migratory Bird Hunting and Conservation Stamp Act (a.k.a. Duck

Stamp Act) which requires that each waterfowl hunter over the age of 16 purchase a federal hunting stamp, the proceeds of which fund the activities of the MBCC.

Fish and Wildlife Act (Public Law 84-1024) – August 8, 1956. Under this legislation, the Secretary of the Interior was granted the authority to “. . . take such steps as may be required for the development, management, advancement, conservation, and protection of wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means.”

Land and Water Conservation Fund Act (Public Law 88-578) – September 3, 1964. The Land and Water Conservation Fund Act established a variety of mechanisms to collect funds for “. . . preserving, developing, and assuring accessibility to all citizens of the United States of . . . quality and quantity [sic] outdoor recreation resources . . .”. Those funds “. . . be allotted . . . [f]or the acquisition of land, waters, or interests in land or waters as follows: National Wildlife Refuge System—Acquisition for . . . endangered species and threatened species national wildlife refuge areas under section 742f(a)(4) . . . and any areas authorized for the National Wildlife Refuge System by specific Acts.”

Endangered Species Act (Public Law 93-205) – December 28, 1973. “The Secretary [of the Interior] . . . shall establish and implement a program to conserve fish, wildlife, and plants, including those that are listed as endangered species or threatened species . . . To carry out such a program, the appropriate Secretary shall utilize the land acquisition authority under the Fish and Wildlife Act of 1956 . . . the Fish and Wildlife Coordination Act . . . and the Migratory Bird Conservation Act . . . and is authorized to acquire by purchase, donation, or otherwise, lands, waters, interests therein, and such authority shall be in addition to any other land acquisition authority vested in him.”

Specific Refuge Establishment Authorities

It should be noted that the “refuge purposes” noted below are citations from MBCC meeting minutes in describing CLNWR and not specifically identified as purposes. There are no known purposes specifically identified in any authorizing language, public land order, etc. However, since the MBCC exists to provide for waterfowl (i.e., “. . . the acquisition of areas of land and water to furnish in perpetuity reservations for the adequate protection of [migratory waterfowl] . . .”), the inferred purposes are based in law.

Migratory Bird Conservation Commission – August 10, 1964, and March 22, 2000. Under the authorities of the Migratory Bird Conservation Act, the established MBCC agreed to create CLNWR for these purposes.

“Restoration of these lands [i.e., “hay lands”] to former wetland habitat and stabilization of spring and summer water levels in managed impoundments will insure greater waterfowl nesting and production of aquatic vegetation for all seasons’ use.” (MBCC Meeting, August 10, 1964)

“Proposed water development and management will be based primarily on the needs for nesting waterfowl with secondary benefits to migrating ducks and geese.”(MBCC Meeting, August 10, 1964)

“ . . . migration and nesting habitat for many waterfowl species, including mallard, pintail, cinnamon teal, and wood ducks, as well as Canada Geese.” (MBCC Meeting, March 22, 2000)

“ . . . one of three known nesting sites for greater sandhill cranes in Washington . . . ”. (MBCC Meeting, March 22, 2000)

“ . . . important wetlands used by resident wildlife as well as migratory waterfowl.” (MBCC Meeting, March 22, 2000)

Conboy Lake National Wildlife Refuge

Established 1964

<i>FEE TRACTS</i>	<i>ACRES</i>	<i>ACQUISITION DATE</i>	<i>HOW DETERMINED</i>	<i>TRACT NAME</i>	<i>AUTHORITY*</i>	<i>ACQUISITION DESCRIPTION</i>	<i>MBCC DATE OF APPROVAL</i>
39	920.00	April 14, 1965	Deed Executed	Dilling (Richard)	Other	Monetary Purchase	August 10, 1964
12	120.00	April 20, 1965	Deed Executed	Ohnemus (Phillip)	MBCF	Monetary Purchase	August 10, 1964
12a	305.67	April 20, 1965	Deed Executed	Ohnemus (Phillip)	MBCF	Monetary Purchase	August 10, 1964
36	727.88	May 17, 1965	Deed Executed	Costanzo (Frank)	Other	Monetary Purchase	August 10, 1964
35	145.62	July 30, 1965	Deed Executed	Knight (Claude)	Other	Monetary Purchase	August 10, 1964
14	245.79	October 12, 1965	Deed Executed	Bertschi (Vilas)	Other	Monetary Purchase	August 10, 1964
26	116.34	November 5, 1965	Deed Executed	Hathaway (George)	MBCF	Monetary Purchase	August 10, 1964
26a	282.00	November 5, 1965	Deed Executed	Hathaway (George)	MBCF	Monetary Purchase	August 10, 1964
40	80.00	November 18, 1965	Deed Executed	Charles (Caroline)	Other	Monetary Purchase	August 10, 1964
23	398.00	March 16, 1966	Deed Executed	King (WD)	MBCF	Monetary Purchase	August 10, 1964
27	200.00	April 28, 1966	Deed Executed	Lyle (Frank)	MBCF	Monetary Purchase	August 10, 1964
27a	40.00	April 28, 1966	Deed Executed	Lyle (Frank)	MBCF	Monetary Purchase	August 10, 1964
28	40.00	April 28, 1966	Deed Executed	Schilling (Lyle)	Other	Monetary Purchase	August 10, 1964
29	219.85	August 8, 1966	Deed Executed	Ladiges (Max)	MBCF	Monetary Purchase	August 10, 1964
29a	151.89	August 8, 1966	Deed Executed	Ladiges (Max)	MBCF	Monetary Purchase	August 10, 1964
18	800.00	September 14, 1966	Deed Executed	Keller (Keith)	Other	Monetary Purchase	August 10, 1964
31	84.89	September 30, 1966	Deed Executed	Ladiges (Ronald)	MBCF	Monetary Purchase	August 10, 1964
31a	81.02	September 30, 1966	Deed Executed	Ladiges (Ronald)	MBCF	Monetary Purchase	August 10, 1964
31b	0.51	September 30, 1966	Deed Executed	Ladiges (Ronald)	MBCF	Monetary Purchase	August 10, 1964
32	255.47	October 6, 1966	Deed Executed	Hathaway (George)	Other	Monetary Purchase	August 10, 1964
37	1.50	May 19, 1967	Deed Executed	Allbritton (WT)	Other	Monetary Purchase	August 10, 1964
34	82.53	January 1, 1969	Deed Executed	Zeigler (Eugene)	Other	Monetary Purchase	August 10, 1964
19	80.00	May 5, 1970	Deed Executed	Gribner (WO)	Other	Monetary Purchase	August 10, 1964

<i>FEE TRACTS</i>	<i>ACRES</i>	<i>ACQUISITION DATE</i>	<i>HOW DETERMINED</i>	<i>TRACT NAME</i>	<i>AUTHORITY*</i>	<i>ACQUISITION DESCRIPTION</i>	<i>MBCC DATE OF APPROVAL</i>
41	40.00	April 1, 1971	Deed Executed	Hathaway (Ray)	FWA	Land Exchange	
21a	40.00	April 5, 1971	Deed Executed	Ladiges (Paul)	FWA	Land Exchange	
42	80.00	November 11, 1971	Deed Executed	Kuhnhausen (Osmar)	Other	Monetary Purchase	August 10, 1964
30	145.00	August 25, 1988	Deed Executed	Hathaway (George)	MBCF	Monetary Purchase	August 10, 1964
46	160.00	March 23, 1992	Deed Executed	Avery (Grace)	ESA	Monetary Purchase	
52c	718.29	August 14, 2000	Easement	Giersch	MBCF	Monetary Purchase	March 22, 2000
25	331.00	April 25, 2002	Deed Executed	Kelley (Steve/Larry)	MBCF	Monetary Purchase	August 10, 1964
53	41.60	June 5, 2002	Deed Executed	Columbia Land Trust	FWA	Monetary Purchase	
54	20.82	January 28, 2003	Deed Executed	Davison (Gwen)	FWA	Monetary Purchase	
56	20.00	April 3, 2003	Deed Executed	Woolery (Brian)	MBCF	Monetary Purchase	March 19, 2003
58	20.00	April 22, 2003	Deed Executed	Patrick (Mollie Jo)	MBCF	Monetary Purchase	March 19, 2003
57	20.00	April 28, 2003	Deed Executed	Troh (Jay)	MBCF	Monetary Purchase	March 19, 2003
55	2.01	August 20, 2003	Deed Executed	Brumbaugh (Darrel)	FWA	Monetary Purchase	
59	2.02	June 16, 2006	Deed Executed	Durham (Laraine)	FWA	Monetary Purchase	
60	80.00	September 26, 2006	Deed Executed	TNC	FWA	Donation	

MBCF = Migratory Bird Conservation (Fund) Act of 1929

FWA = Fish and Wildlife Act of 1956

ESA = Endangered Species Act of 1973

TNC = The Nature Conservancy

Toppenish National Wildlife Refuge Establishing Authorities and Acquisition History

Established 1964

Background

The authorities under which the Toppenish National Wildlife Refuge (TNWR) was established, its acquisition history, and the refuge's purposes are included within one document as their research and documentation are intertwined. The U.S. Fish and Wildlife Service's (FWS) national refuge purposes database and files within the Realty Division in the Portland Office were the main source of the information contained here.

TNWR was established in 1964 with the purchase of the purchase of the 40-acre Cloe Tract, although the authorization for its establishment was granted during the August 21, 1962, quarterly meeting of the Migratory Bird Conservation Commission (MBCC). The minutes of the MBCC is the sole establishing documentation for the TNWR; there have been no public land orders, executive orders, etc., related to TNWR.

General Refuge Establishment Authorities

Executive Order 9337 – April 24, 1943. This Executive Order of President Franklin Roosevelt authorized the Secretary of the Interior to withdraw and reserve lands of the public domain and other lands owned or controlled by the United States.

Executive Order 10355 – May 26, 1952. President Harry Truman's Executive Order delegated to the Secretary of the Interior the authority of the President to withdraw or reserve lands of the United States for public purposes. This Executive Order superseded Executive Order 9337 of April 24, 1943.

Migratory Bird Conservation Act (Public Law 70-770) – February 18, 1929. "A commission to be known as the Migratory Bird Conservation Commission . . . is created and authorized to consider and pass upon any area of land, water, or land and water that may be recommended by the Secretary of the Interior for purchase or rental [as sanctuaries for migratory birds]. The Secretary of the Interior may . . . purchase or rent such areas or interests therein as have been approved for purchase or rental by the Commission . . . [or] . . . acquire . . . any area or interests therein . . . which he determines to be suitable for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. . . ." The funds for the purchase of lands and interests in lands was subsequently greatly expanded through the Migratory Bird Hunting and Conservation Stamp Act (a.k.a. Duck

Stamp Act) which requires that each waterfowl hunter over the age of 16 purchase a federal hunting stamp, the proceeds of which fund the activities of the MBCC.

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Land and Water Conservation Fund Act (Public Law 88-578) – September 3, 1964. The Land and Water Conservation Fund Act established a variety of mechanisms to collect funds for “. . . preserving, developing, and assuring accessibility to all citizens of the United States of . . . quality and quantity [sic] outdoor recreation resources . . .”. Those funds “. . . be allotted . . . [f]or the acquisition of land, waters, or interests in land or waters as follows: National Wildlife Refuge System—Acquisition for . . . endangered species and threatened species national wildlife refuge areas under section 742f(a)(4) . . . and any areas authorized for the National Wildlife Refuge System by specific Acts.”

Endangered Species Act (Public Law) – March 3, 1973. “The Secretary [of the Interior] . . . shall establish and implement a program to conserve fish, wildlife, and plants, including those that are listed as endangered species or threatened species . . . To carry out such a program, the appropriate Secretary shall utilize the land acquisition authority under the Fish and Wildlife Act of 1956 . . . the Fish and Wildlife Coordination Act . . . and the Migratory Bird Conservation Act . . . and is authorized to acquire by purchase, donation, or otherwise, lands, waters, interests therein, and such authority shall be in addition to any other land acquisition authority vested in him.”

Specific Refuge Establishment Authorities

Migratory Bird Conservation Commission – August 21, 1962. Under the authorities of the Migratory Bird Conservation Act, the established MBCC agreed to create TNWR for the purposes below.

- (1) To maintain wintering habitat for ducks and geese (primarily mallards).
- (2) To provide protection and habitat for wildlife species other than waterfowl.
- (3) To provide opportunities to the general public for a variety of wildlife-oriented recreational activities.

An Act to Authorize the Purchase, Sale and Exchange of Certain Indian Lands on the Yakima Indian Reservation and for Other Purposes (Public Law 84-188) – July 28, 1955 – Amended by Public Law 88-540 – August 31, 1964. Taken together, the two laws authorized the Secretary of the Interior to “. . . sell or approve sales of any tribal trust lands, including interests therein or improvements

thereon, such sales being limited to agencies of the Federal, State, or Local governments for recreational, educational, civic, or other public purposes . . .”.

Toppenish National Wildlife Refuge

Established 1964

<i>FEE TRACTS</i>	<i>ACRES</i>	<i>ACQUISITION DATE</i>	<i>HOW DETERMINED</i>	<i>TRACT NAME</i>	<i>AUTHORITY</i>	<i>ACQUISITION DESCRIPTION</i>	<i>MBCC DATE OF APPROVAL</i>
117	40.00	April 27, 1964	Deed Executed	Cloe (Mervyn)	Other	Monetary Purchase	August 21, 1962
26	60.00	April 28, 1964	Deed Executed	Greene (Lowell)	Other	Monetary Purchase	August 21, 1962
64	80.00	May 11, 1964	Deed Executed	Petty (Dale)	Other	Monetary Purchase	August 21, 1962
12	40.00	May 21, 1964	Deed Executed	Dekker (Bert)	Other	Monetary Purchase	August 21, 1962
56	80.00	May 29, 1964	Deed Executed	Webb Logging	Other	Monetary Purchase	August 21, 1962
153	80.00	October 14, 1964	Deed Executed	Iseri (Frank)	Other	Monetary Purchase	August 21, 1962
140	40.00	April 9, 1965	Deed Executed	Williams (Ella)	Other	Monetary Purchase	August 21, 1962
96	281.28	July 15, 1965	Deed Executed	Davis (Bertha)	MBCF	Monetary Purchase	March 23, 1965
96a	160.00	July 15, 1965	Deed Executed	Davis (Bertha)	MBCF	Monetary Purchase	March 23, 1965
97a	80.00	December 23, 1965	Deed Executed	Jensen (Arthur)	MBCF	Monetary Purchase	March 23, 1965
23	40.00	January 18, 1966	Deed Executed	Cramer (Ralph)	Other	Monetary Purchase	August 21, 1962
61	80.00	February 14, 1966	Deed Executed	Halvorson (Robert)	Other	Monetary Purchase	August 21, 1962
76	75.59	April 7, 1966	Deed Executed	Chambers (JH)	MBCF	Monetary Purchase	March 23, 1965
76r	1.29	April 7, 1966	Easement	Chambers (JH)	MBCF	Monetary Purchase	March 23, 1965
97	40.00	April 13, 1966	Deed Executed	Jensen (Arthur)	MBCF	Monetary Purchase	March 23, 1965
97b	40.00	April 13, 1966	Deed Executed	Jensen (Arthur)	MBCF	Monetary Purchase	March 23, 1965
29	40.00	August 19, 1966	Deed Executed	Healy (LW)	Other	Monetary Purchase	August 21, 1962
98	151.39	October 10, 1966	Deed Executed	Clyde (David)	MBCF	Monetary Purchase	March 23, 1965
98a	160.56	October 10, 1966	Deed Executed	Clyde (David)	MBCF	Monetary Purchase	March 23, 1965
70	193.98	December 4, 1968	Deed Executed	Brinkley (James)	Other	Monetary Purchase	March 23, 1965
105a	17.00	May 17, 1991	Deed Executed	Gadley (Arthur)	ESA	Monetary Purchase	
101	120.00	September 16, 1991	Deed Executed	Jensen (Gregory)	ESA	Monetary Purchase	
60	77.75	May 19, 1992	Deed Executed	Yakima Reservation Irrigation District	FWA	Monetary Purchase	

Conboy Lake and Toppenish National Wildlife Refuges Comprehensive Conservation Plan Workplan

Background

The National Wildlife Refuge System Administration Act, 16 U.S.C. 688dd-688ee, as amended, requires the development of a Comprehensive Conservation Plan (CCP) for each refuge or related complex of refuges in the National Wildlife Refuge System (NWRS). The CCP provides a long-term vision and outlines goals, objectives and strategies to guide refuge management activities in achieving refuge purposes and helping to fulfill the mission of the NWRS. On approval, the CCP is intended to be used for approximately 15 years, after which it will be revised as necessary. CCPs are prepared in accordance with the provisions of National Wildlife Refuge System Administration Act, National Environmental Policy Act (NEPA), Refuge Planning Policy and other applicable laws, executive orders, regulations, policies and guidelines.

The Mid-Columbia River National Wildlife Refuge Complex (MCRNWRC) consists of eight national wildlife refuges (NWRs)—Cold Springs, Columbia, Conboy Lake, McKay Creek, McNary, Saddle Mountain, Toppenish and Umatilla—and the Hanford Reach National Monument. This workplan applies only to Conboy Lake and Toppenish NWRs (CLNWR and TNWR, respectively). The CCPs for Hanford/Saddle Mountain, McNary and Umatilla are complete, and separate planning efforts are underway for the other refuges.

Purpose

The purpose of this workplan is to ensure that the Project Leader, refuge staff and Regional Office staff agree on the roles, expectations, schedule, responsibilities, commitments, refuge purposes, preliminary conservation targets, preliminary management goals and objectives, draft vision statement and communication plan to be used in developing a draft CCPs and ultimately final CCPs. It is the intent of this workplan that all parties agree on all work items contained in this Preplanning Report. If there are circumstances that significantly change the scope of work, roles and responsibilities, and/or schedule, then an amendment may be prepared.

Scope of Work

This Preplanning Report is for the development of the CLNWR and TNWR CCPs and associated environmental assessments (EAs). This CCP will go into considerable detail on goals, objectives and strategies for wildlife and habitat management, as well as those for public use. Although the CCPs will not eliminate the need for step-down plans, they should considerably streamline the development of habitat management plans, inventory and monitoring plans, invasive species plans

and visitor services plans. The existing Fire Management and Integrated Pest Management Plans will be incorporated into the CLNWR and TNWR CCPs by reference. The CCPs and EAs will be prepared simultaneously and may be integrated as one document. Final stand-alone CCPs will be produced after the Regional Director selects an alternative for implementation.

Goals for the Planning Process and the CCP

- Stay on schedule.
- Avoid taking shortcuts that cause delays later on (e.g., do a thorough job of scoping to identify all issues).
- Produce concise documents.
- Conduct CCP planning as a top priority on each refuge.
- Develop new partnerships and solidify existing ones.
- Develop reasonable CCP alternatives.
- Maximize the use of standardized text and templates.
- Develop products that are usable in future refuge management (e.g., current land status maps, accessible databases).
- Augment funding and staffing levels if necessary.
- Create documents that are useful for refuge management.
- Bring an ecosystem perspective to refuge management.
- Improve the effectiveness of the MCRNWRC in helping to fulfill the NWRS Mission.

Major Issues

The following preliminary list of issues identified by the core planning team are intended to provide an indication of the level of work required to complete the CCPs/EAs. Issues are defined as matters of controversy, dispute, or general concern over resource management activities, the environment, or land uses. For details, see the Preliminary Issue Identification and Communications Plan chapters in this report.

CLNWR

- Issue 1: Land Acquisition/Exchanges/Conservation Agreements
- Issue 2: Water Rights
- Issue 3: Water Management
- Issue 4: Wet Meadow and Riparian and Stream Habitat Management
- Issue 5: Short-Grass Management (Wet Prairie and Upland Meadow)

- Issue 6: Upland Meadow Management
- Issue 7: Forest Management
- Issue 8: Invasive and Non-native Plants and Wildlife
- Issue 9: Oregon Spotted Frog Management
- Issue 10: Rare Plant Management
- Issue 11: Sandhill Crane Management
- Issue 12: Elk Management
- Issue 13: Waterfowl and Waterbirds
- Issue 14: Wildlife-dependent Uses
- Issue 15: Effective Law Enforcement
- Issue 16: Impacts of Development and Climate Change
- Issue 17: Staffing

TNWR

- Issue 1: Wildlife and Habitat Management
- Issue 2: Water Rights
- Issue 3: Wetland Management
- Issue 4: Waterfowl Management
- Issue 5: Invasive Species
- Issue 6: Rare and Listed Species Recovery
- Issue 7: Impacts of Development and Climate Change
- Issue 8: Contaminants and Water Quality
- Issue 9: Wildlife-dependent Uses
- Issue 10: Effective Law Enforcement, Outreach, and Prevention of Illegal Uses

Public Involvement Strategy

It is anticipated that there will be minimal interested public for this planning effort. Both refuges were established in the mid-1960s, and few significant changes to management are anticipated. Both refuges are small with a limited number of neighbors. As noted above, CLNWR does have a few 'hot-button' issues, but the number of people interested in each issue is limited. TNWR was established for one purpose, and most resources and management efforts are related to that purpose; there is little to generate public interest in the CCP process.

However, each refuge is within or adjacent to the Yakama Indian Reservation, and it is likely that the tribal government will have a keen interest in management of both refuges, possibly including direct management of refuge resources.

FWS staff have spent considerable time identifying potentially interested parties, and these lists can be found in the Communications Plan for each refuge elsewhere in this document. Likewise, the public involvement strategies can also be found there.

Roles and Responsibilities

Completion of this plan in a timely manner requires considerable effort from all team members. The Refuge Manager will work with the Project Leader to ensure that development of the Conboy Lake and Toppenish CCPs/EAs receive the priority needed to follow and achieve the milestones and tasks. The Refuge Manager will find ways to help refuge staff to lessen their regular workload to allow adequate time to be dedicated to developing the CCPs/EAs. The Regional Director is responsible for approving which EA alternative will become the CCP for the two refuges.

The core planning team consists of persons responsible for the preparation and completion of the CCPs and EAs. They are the primary strategists, analysts, writers, etc., and will attend all team meetings. To avoid scheduling and logistical conflicts, the core team has a limited number of participants. The extended team plays a supporting role to the core team. Extended team members' varied responsibilities include providing technical expertise and assisting with data collection, public involvement, alternative development, analysis, writing and reviewing. It is envisioned that the extended team will primarily consist of FWS branch chiefs or program specialists, other agency representatives, and possibly representatives from the Yakama Nation. The list of participants for this CCP also includes contract specialists (infrequently contacted for specific planning needs); reviewers (Regional Office personnel including Refuge Supervisors, Visitor Services, Planning, GIS, Realty, Natural Resources); consulting governments; and stakeholders/interested parties, identified in the Preliminary Issue Identification report. Not all of the extended team members and others who will support the CCP effort have been identified here. For example, there may be more regional office reviewers than are listed below. Due to the nature of planning, additional needs for special expertise will be identified as planning proceeds.

In addition to FWS and other public personnel, the firm of ICF International in Portland, Oregon, has been contracted to prepare much of the affected environment and impact analysis portions of the CCPs. The contractor will work closely with core team members to ensure a seamless integration of the contracted portions with those written of the core and extended teams.

Core Planning Team

Greg Hughes, Project Leader – Supervision; decision-making; public involvement; reviewer; federal and state agency and tribal coordination. Expect 5% time commitment.

Jeff Howland, Deputy Project Leader – Supervision; public involvement; refuge vision; reviewer; appropriate uses; compatibility determinations. Expect 10% time commitment.

Larry Klimek, Deputy Project Leader – Supervision; public involvement; refuge vision; reviewer; appropriate uses; compatibility determinations. Expect 10% time commitment.

Shannon Ludwig, Refuge Manager – Public involvement; writer/reviewer; refuge vision; research/analysis: socioeconomics, cultural resources, visitor services, rare plants and plant communities; vegetation descriptions; invasive plants; appropriate uses; compatibility determinations. Expect a minimum of 30% time commitment.

Heidi Newsome, Refuge Complex Biologist – Writer/reviewer; research/analysis: habitats, wildlife; Endangered Species Act biological assessment(s); rare plants and plant communities, invasive plants; compatibility determinations. Expect a minimum of 20% time commitment.

Sue McDonald, Supervisory Visitor Services – Public involvement; writer/reviewer; research/analysis: socioeconomics, visitor services; appropriate uses; compatibility determinations. Expect a minimum of 20% time commitment.

Dan Haas, Refuge Planner – Coordination and process guidance for development of the CCP; public involvement: planning updates and outreach plan; planning record; principal NEPA advisor; writer/reviewer; document format and layout; research/analysis; refuge purposes; appropriate uses; compatibility determinations. Expect a minimum of 30% time commitment.

Extended Team

Most of the extended team has yet to be determined. Those that are known include:

- Lindsey Hayes, Refuge GIS Specialist – GIS, maps.
- Fred Pavaglio, Branch Chief, Refuge Biology – CCP Advisor, conservation targets, habitat goals and objectives, compatibility determinations review, document review.

- Kevin Killbride, Wildlife Biologist/ Regional IPM Coordinator – IPM advice, data and review; assist with development of objectives and strategies.
- Scott McCarthy, Regional Planning Branch Chief – CCP advice, review, Regional Office coordination.

Contact Specialists

- Scott Aikin, Tribal Liaison – Identification of and coordination with Native American Tribes.
- Anan Raymond, Archeologist – Cultural resources advice, data, and review; State Historic Preservation Officer consultation, if needed.
- Dave Drescher, Branch Chief, Refuge Information – GIS coordination and oversight, mapping and cartography; review.
- Georgia Shirilla, Branch Chief, Refuge Acquisition – Realty issues.
- Mike Marxen, Chief, Visitor Services – CCP Advisor, layout graphics design, public use goals and objectives; public involvement assistance, compatibility determinations review.

Reviewers

- Robyn Thorson, Regional Director – Decision-maker, CCP/EA approval.
- Carolyn Bohan, Regional Chief of Refuges – Major decisions on CCP direction.
- Forrest Cameron, Refuge Supervisor – Refuge workload assistance; reviewer; decision-maker.
- Linda Watters, Assistant Refuge Supervisor – Refuge workload assistance; reviewer; decision-maker.
- Chuck Houghten, Division Chief of Refuge Planning – CCP advisor for planning policy and guidance; reviewer; coordination with other divisions and Washington Office.
- Ben Harrison, Division Chief, Natural and Cultural Resources – CCP advisor, purposes, wilderness review, policy, compatibility determinations review.
- Cathy Sheppard, Division Chief, Realty and Refuge Information – CCP review.
- Kay Kier-Haggenjos, writer/editor – Editing of CCP/EA and related documents.

- External Affairs – Assist in the development of public involvement/communication plan; potential public involvement assistance.

Consulting Governments

To be determined.

CCP Development Milestones

Initial Preplanning Report Development.....	September 2010
Federal Register Notice of Intent.....	November 2010
Scoping Briefing Statement.....	February 2011
Draft Goals and Objectives.	April 2011
Alternatives Briefing Statement..	May 2011
Internal Review Draft.	September 2011
Federal Register Notice of Draft CCP.....	October 2011
Public Review Closing.....	December 2011
Final CCP.....	January 2012
Final CCP Briefing Statement.	February 2012
Federal Register Notice of Final CCP.....	April 2012

Prepared By

Shannon Ludwig, Refuge Manager

Date

Dan Haas, Lead Planner

Date

Reviewed By

Ben Harrison, Branch Chief, Refuge Planning

Date

Charles Houghten, Chief, Refuge Planning

Date

Forrest Cameron, Refuge Supervisor

Date

Conboy Lake National Wildlife Refuge Communications Plan

The U.S. Fish and Wildlife Service (FWS) is developing a Comprehensive Conservation Plan (CCP) to guide management of Conboy Lake National Wildlife Refuge (CLNWR) for the 15 years following completion of the CCP. Public involvement in the planning process is crucial to the success of the development of a CCP. This communication plan identifies the timeline, strategies and key partners involved in addressing issues that are at the forefront of wildlife management on the CLNWR and how the FWS will work to ensure those issues that concern the public and government agencies are communicated in a clear and effective manner.

Public, Agency and Governmental Outreach and Communication

Including the public; local, state and federal agencies; interested businesses and other organizations; and other governments in the CCP process is critical to its success. Our public outreach goals include:

- 1) Providing information about the National Wildlife Refuge System (NWRS) and its mission, policies, goals and concepts, such as the CCP and refuge compatibility processes.
- 2) Informing interested parties about the mission, purposes and goals of CLNWR.
- 3) Identifying concerns and desires for management of CLNWR (scoping).
- 4) Clearly describing the decision-making process, including biological, legal and policy requirements.
- 5) Informing everyone of, and receive input regarding, public use and resource management issues for CLNWR.
- 6) Building long-term support for the biological, cultural and visitor use programs implemented through the CCP process.
- 7) Continuing to build relationships between CLNWR and local communities, adjacent land management agencies, interested organizations and tribal governments.
- 8) Continuing to strengthen partnerships with local, state and tribal governments; other agencies; private conservation organizations; and other groups through open communication and input during the CCP process.
- 9) Ensuring accuracy in published reports and other media contacts.

Audience/Interested Parties*Internal Audiences*

Key personnel to keep informed include upper management within Region 1 (e.g., Regional Director, Deputy Regional Director, Regional Chief of the NWRS, Refuge Supervisor, and Chief of Planning). Technical planning experts within the region and in the Washington Office will most likely be interested in viewing and commenting upon the draft CCP. Refuge managers, biologists and visitor service specialists from other refuges, national fish hatcheries and ecological services field offices will be kept informed of the CLNWR CCP and may also serve as a source of technical expertise.

External Audiences

The list below is a summary of the entities that will be key targets during outreach for the CCP. Involved public will include stakeholders, adjacent landowners and managers, and all parties with the potential to be affected by the CCP and its process.

- Local governments, including Klickitat County and the communities of Glenwood, Trout Lake, Goldendale, White Salmon and Hood River.
- State agencies, including the Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (WDNR), Washington Department of Ecology (WDOE), and Washington Department of Transportation (WDOT).
- Federal agencies, including other FWS offices and programs, Bureau of Indian Affairs (BIA), Natural Resources Conservation Service (NRCS), U.S. Forest Service (USFS), U.S. Geological Survey (USGS), and National Oceanic and Atmospheric Administration-Fisheries (NOAA).
- Yakama Nation.
- Local landowners.
- Mount Adams Resource Stewards.
- Columbia Gorge Ecology Institute.
- National, state and local chapters or offices of conservation organizations, including, but not limited to, Yakima Valley Audubon Society, Portland Audubon Society, National Audubon Society, The Nature Conservancy, and Ducks Unlimited.
- Affected businesses and industry/economic interest groups.

- Sportsman's groups.
- Chambers-of-Commerce.
- Public and private universities.
- Land trust organizations.
- The general citizenry from the surrounding counties.

Key Messages (Public Briefing Statements)

Key Messages About the CCP

- As part of the National Wildlife Refuge System Administration Act (Administration Act), as amended, all refuges require a 15-year CCP to guide their management activities.
- The CCP will be developed with participation by local, state and tribal governments; federal agencies; the public; conservation organizations; adjacent landowners; and affected businesses.
- The CCP will describe a range of management alternatives and evaluate the environmental, recreational and economic impacts anticipated under each alternative. The Refuge Manager has the primary responsibility to prepare the CCP and is the primary point of contact for the public. The Regional Director, as the final decision-maker, will approve the completed CCP.

Key Messages for CLNWR

- CLNWR was established in 1964 under acquisition authority of the Migratory Bird Conservation Act “. . . for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” and the Refuge Recreation Act as “. . . suitable for . . . (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . .”. The Migratory Bird Conservation Commission (MBCC) authorized the acquisition of 10,245 acres (later reduced to 9,245 acres) to establish CLNWR.
- CLNWR was established to provide migratory and breeding habitat for waterfowl of the Pacific Flyway.
- The established boundary of CLNWR was modeled after the Klickitat Drainage District #1 (KDID) boundary.

- CLNWR currently encompasses approximately 6,500 acres in fee title ownership, plus a 700-acre easement. This easement restricts the development of the tract, but it does not allow FWS management or monitoring of the site.
- Adjacent land surrounding CLNWR is managed by private landowners and the state of Washington.
- The public and private wetlands within the Glenwood Valley are considered by the Washington GAP Analysis Program to be among the more diverse wetland systems remaining in Washington. The valley habitat is important due to its biodiversity, juxtaposition within the broader geographic landscape, and remaining populations of rare wildlife and plants.
- CLNWR is administered by the Mid-Columbia River National Wildlife Refuge Complex (MCRNWRC) in Burbank, Washington, and the Refuge Manager is headquartered at Toppenish National Wildlife Refuge in Toppenish, Washington.
- CLNWR offers the public a range of outdoor recreational and educational opportunities, including hunting, fishing, wildlife observation, photography and environmental education.

Key Interested Parties for CLNWR

- Adjacent and inholding landowners
- Audubon Society of Portland
- Cattlemen's Association
- Chambers of Commerce: White Salmon, Goldendale, Hood River
- City of Glenwood, Washington
- City of Goldendale, Washington
- City of Hood River, Oregon
- City of Trout Lake, Washington
- City of White Salmon, Washington
- Columbia Gorge Ecology Institute
- Columbia Land Trust
- Columbia River Gorge Commission
- Congressional delegations
- Cooperative Alliance for Refuge Enhancement (CARE)
- Defenders of Wildlife
- Ducks Unlimited
- Federal Highway Administration
- Glenwood City Council
- Glenwood School District
- Isaac Walton League

- Klickitat County Commissioners
- Klickitat County Natural Resources
- Klickitat County Noxious Weed Control Board
- Klickitat County Public Works
- Mount Adams Resource Stewards
- National Audubon Society
- Private citizens/landowners
- Rocky Mountain Elk Foundation
- Safari Club International
- Sierra Club
- Sportsman groups
- The Nature Conservancy
- The Wilderness Society
- U.S. Bureau of Indian Affairs
- U.S. Bureau of Land Management
- U.S. Forest Service
- U.S. Geological Survey
- U.S. Natural Resources Conservation Service
- Washington Department of Ecology
- Washington Department of Fish and Wildlife
- Washington Department of Natural Resources
- Washington Department of Transportation
- Washington State University
- Washington State University – King County Extension
- Washington State University – Klickitat County Extension
- Washington Waterfowl Association
- Yakama Nation
- Yakima Valley Audubon Society

Anticipated Issues

The primary categories of issues that the FWS anticipates addressing as part of the CCP process for CLNWR are resource protection, habitat management and visitor services. Under these broad categories, the specific issues are:

Issue 1: Land Acquisition/Exchanges/Conservation Agreements**Key Messages**

- The approved acquisition boundary for CLNWR is 9,245 acres. The refuge currently encompasses approximately 6,500 acres in fee title ownership, plus a 700-acre easement. This easement restricts the development of the tract, but it does not allow FWS management or monitoring of the site.
- CLNWR is separated into four disjointed units that are interspersed with private ranches and timberlands. This mixed ownership has resulted in negative impacts on resources due to: 1) early water drawdowns via private water control structures; 2) an inability to manage historical water regimes due to adjacent private lands; 3) an inability to oversee ditch maintenance through the refuge by the KDID; and 4) trespass cattle grazing.
- Acquisition or exchange of key inholdings was deemed a high priority during 1998 and 2009 Wildlife and Habitat Management Reviews and continues to be crucial for fulfilling the long-term goals of the refuge.
- The most severe resource impacts occur on the 1,240-acre Camas Prairie (north of the Camas Ditch/Outlet Creek). Although a number of exchange options have been mapped and discussed during the past 12 years, there have not been any acquisitions or exchanges of the key parcels (about 330 acres) within the northeastern portion of the Camas Prairie. Significant fee title acquisitions seem unlikely in the short term, particularly within the wet prairie and wetland portions of the refuge, as recently posted sale prices for property have exceeded the appraised value of the property. This issue is compounded by the fact that wetland acreage is of higher value to local ranchers (for haying and grazing), while real estate appraisals place less value on these sites.

Issue 2: Water Rights**Key Messages**

- CLNWR's water rights were researched and mapped by the FWS's Water Resources Branch in the Division of Engineering in 1991. However, there are a few errors, omissions and inconsistencies with the information in the water rights files in the Regional Office which need to be resolved. For the most part, though, the maps accurately depict the water rights on the refuge. There are three sheets of maps corresponding to the three types of water rights on the refuge—water right claims, state-appropriated water rights and decreed water rights.
- In general, natural water flows are sufficient from November through April to fill all of the wetlands and prairies on the refuge. Since CLNWR is situated at the bottom of the basin and

ultimately receives almost all tailwaters from upstream users, it generally receives sufficient water when available. However, the refuge has acquired several tracts in the decade since the water rights review. Water rights for these sites have not been evaluated, and currently water flows are not diverted effectively for flooding these lands.

- CLNWR has 25-30 shares of water that can be diverted from the Hell Roaring Irrigation District (HRID). This water is usually unavailable until May or June when the HRID starts diverting water from the Big Muddy Creek into the Bird Creek system. HRID waters can be diverted into several additional inflow points along the northern boundary of the refuge. In the past, CLNWR has rarely requested specific summer water diversions from HRID. Because the refuge is located at the end of the water delivery system, it has received unexpected water flows which have compromised management actions (such as drawdowns, flooded hay bales).
- Documented temperature increases over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change, will lead to an earlier spring drying trend in the valley. Therefore, the need to resolve CLNWR water rights and efficiently utilize and manage water flows is critical to achieving refuge purposes.

Issue 3: Water Management

Key Messages

- CLNWR manages approximately 3,500 acres of wet prairie, emergent marsh and seasonally flooded scrub-shrub and forest land habitats, which encompasses approximately 54% of the refuge. Water management is the single most important management issue on the refuge and within the valley.
- In general, the goal is to manage wetlands that mimic the natural hydrology of the basin, where feasible. This includes maintaining the large contiguous wet prairie system (Camas Prairie) and the Conboy Lake wetland system.
- Challenges regarding water management on CLNWR include: 1) the KDID's annual draining and irrigation of the Camas Prairie, and to a lesser extent Conboy Lake, for cattle grazing and haying by private landowners in the valley; 2) the KDID has the authority to dredge specific waterways (such as Camas Ditch/Outlet Creek) on the refuge when they become choked with vegetation or silt; and 3) the refuge does not have the complete infrastructure required to control water independently from the KDID and other landowners.
- Historically, the valley was ditched and drained to promote agricultural practices (farming, haying, grazing). As a result, much of the Camas Prairie is still annually drained to facilitate the production of hay and provide grass pastures on inholdings. These early drawdowns

directly affect refuge management and subsequently have negative impacts on wildlife and plant resources, particularly crane and waterfowl production.

- Some of the CLNWR's water management infrastructure is degraded. Dike systems are too porous and ineffective in some areas to efficiently move water. There are approximately 75 water control structures (WCSs) on the refuge, many of which are leaking, are under- or oversized, or are placed at incorrect elevations to be efficient. The straight-line ditches and sharp angles in their configuration also can increase flow velocities and erosion and exacerbate sedimentation issues. Many ditches are choked with vegetation (primarily reed canarygrass).

Issue 4: Wet Meadow and Riparian and Stream Habitat Management

Key Messages

- These habitats are best characterized by the Camas Prairie and the areas including and surrounding the historic Conboy and Swan Lakes. These habitats are managed as seasonal wetlands with variable water regimes that range from flood-up (October) to drawdown (August). Annual water inundation varies considerably depending on the unit location, rainfall and snowpack, ability to flood/irrigate from the Bird Creek system, haying and specific unit vegetation and management needs. Water depths range from saturated soils to over three feet.
- These areas are dominated by reed canarygrass, which may be differentially expressed annually depending on weather and water conditions.
- Management of the prairie habitat, specifically the Camas Prairie north of the Camas Ditch drainage system, is complicated by five private inholdings. Because these inholdings are hayed and grazed, they require a water regime that conflicts with wildlife and habitat needs.
- Widespread encroachment of lodgepole pine and Douglas spiraea into wet meadow and prairie habitats on the refuge is a problem.
- Woody vegetation along the constructed dike system poses maintenance, management and access issues. Tree roots compromise dike integrity, and downed trees block waterways making water management difficult. Beavers are likewise attracted to riparian areas; their dams, bank burrows, felled trees and runways cause additional management problems.

Issue 5: Short-Grass Management (Wet Prairie and Upland Meadow)

Key Messages

- Haying is utilized on CLNWR lands to reduce cover of reed canarygrass. There are 31 hay allotments that total approximately 2,325 acres of upland and wet meadows—less than one-half of that total is currently hayed. There are eight permittees that cut and harvest about 1,500 tons of hay annually on approximately 1,100 acres of the refuge.
- Recent surveys indicate there will be less demand for hay in the valley due to changing economic conditions.
- Haying operations begin August 1st to protect nesting and flightless migratory birds; all hay is required to be removed by September 15 to allow flood-up of wetland units.
- Haying is used to: 1) improve Oregon spotted frog breeding sites (short vegetation, warmer spring soil temperatures), especially where canarygrass is prevalent; 2) provide winter and spring green forage habitat for Canada geese; 3) enhance foraging opportunities for sandhill cranes (access to invertebrates and small vertebrates); 4) reduce encroachment by woody species; and 5) provide open areas of water for wintering and migrating waterfowl.
- Grazing was also used until 1976, when it was found incompatible due to negative effects on habitats and priority species. As a result, many of the grazing units were converted to haying units.
- Trespass grazing is an annual issue, as fences frequently fail due to winter ice flows, elk damage, or fence and gate disrepair. A few areas of the refuge (southwest) are unfenced and subject to trespass (open-range) cattle grazing.
- High-stocking-rate grazing has been used in a few circumstances where dense stands of canarygrass could not be accessed by mowers.

Issue 6: Upland Meadow Management

Key Messages

- CLNWR contains approximately 1,125 acres of dry upland meadows providing a diverse transition zone between the wet meadows and forested areas.
- Many of the upland meadows are threatened by encroachment of Ponderosa and lodgepole pines. Cutting and removal of these pines has occurred, primarily the younger trees, and this control effort has increased in recent years and has targeted larger diameter pines.

Issue 7: Forest Management

Key Messages

- Forested habitat on CLNWR totals approximately 2,000 acres, primarily around the perimeter of the prairie and wetland units. Although most of the refuge forest acreage is limited, much of it abuts private and corporate timber lands and functions within the larger landscape.
- CLNWR forest stands can be roughly lumped into five categories—Ponderosa pine forest, lodgepole pine forest, mixed conifer stands, quaking aspen stands and Oregon white oak woodlands.
- The *Silvicultural Report and Recommendations for Conboy Lake National Wildlife Refuge Forest Stands* is an assessment of the forest habitats and silvicultural needs for each of these forest types on the refuge. This report found that forest stands generally are too densely populated due to lack of fire and/or thinning; forest canopy layers are lacking; snag density is low; and forest openings are lacking.
- Overall, CLNWR's forested habitats are still in relatively good health, but they are in need of management to attain the features and vegetative structure necessary for optimizing wildlife values.
- Specific forest stand prescriptions are contained within the silvicultural report and should be incorporated into the CCP as forest management recommendations.

Issue 8: Invasive and Non-native Plants and Wildlife

Key Messages

- Although there are only a small number of invasive species on the refuge, they are widespread and problematic.
- FWS staff employs an integrated pest management (IPM) approach using mechanical, physical, chemical and, where appropriate, biological controls to control pest species.
- Meadow knapweed is the most prevalent invasive plant occurring on CLNWR.
- Other invasive, but less prevalent, non-native plants include bachelor buttons, diffuse knapweed, common St. John's wort, Scotch broom and Canada thistle.
- The non-native bullfrog is fairly common on the refuge. Studies indicate that bullfrogs can prey heavily on native frog species (including Oregon spotted frogs).

- Brown bullheads are not native to CLNWR, and they occur in virtually all permanent and seasonal wetlands.

Issue 9: Oregon Spotted Frog Management

Key Messages

- The Oregon spotted frog is listed as endangered by the state of Washington and is a federal candidate species.
- CLNWR and the surrounding private lands within the Glenwood Valley are one of the areas where Oregon spotted frogs are known to remain in Washington. This population is the largest remaining across its historic geographic range.
- Despite considerable knowledge about the habitat and management requirements for the Oregon spotted frog, management remains complex, as habitat needs and the abatement of other stressors often conflict with the conventional intensive wetland management that occurs on the refuge.
- Water management related to private inholdings (early drawdowns), dredging of overwintering creeks and ditches, continued failure of water control infrastructure, removal of beaver dams and the recently discovered presence of *Chytridiomycosis* within the Oregon spotted frog population are probably suppressing population recovery.

Issue 10: Rare Plant Management

Key Messages

- CLNWR supports populations of one Washington State endangered and three threatened plant species.
- CLNWR also supports other state sensitive/rare plant species, which can be found in the several refuge plant species inventories that have been compiled by native plant groups.
- The wet prairie species of primary management concern for CLNWR are Oregon coyote-thistle, rosy owl-clover, Kellogg's rush, dwarf rush and long-bearded sego lily. The refuge is believed to support the largest and healthiest populations of these plants in the state, other than Kellogg's rush which may be extirpated.
- These plants are impacted by permanent water management regimes, trespass cattle grazing, haying and invasive species.

Issue 11: Sandhill Crane Management

Key Messages

- The greater Sandhill crane is listed as endangered by the WDFW.
- CLNWR supports 80-90% of the known nesting cranes in Washington. Nesting was first confirmed on the refuge in 1979.
- The number of breeding pairs on the refuge has increased from seven (1995) to 21 (2008). During that same time period, the number of individual cranes (breeding population) in Washington (on and off refuge) increased from 22 to 64. Despite this growth, the number of nesting pairs has remained relatively stable over the past five years.
- Water management (or lack of capability) can lead to nest loss by drying (increasing predation) or flooding. Water elevations need to remain fairly stable during the nesting period (April-May), and drawdowns need to occur slowly to provide rearing habitat for colts.
- To avoid potential issues during haying, there is an August 1 initiation date for haying on refuge lands.

Issue 12: Elk Management

Key Messages

- CLNWR supports a population of elk during much of the year. This population appears to be increasing annually.
- Likewise, the elk population appears to be expanding its range and herd size, though there have been no long-term surveys conducted to assess population trends and range within the Glenwood Valley.
- Habitat impacts in the form of elk trails in both wetlands and timbered areas appears to be increasing, and erosion of stream banks at elk crossings is evident throughout the refuge. Continual erosion at these sites ultimately leads to dike overtopping, which complicates water management.
- Elk depredation has been a suspected periodic problem in nearby agricultural fields for many years. There are claims that depredating elk are coming from the refuge.
- Over the past several years, unethical and reckless hunting on private lands have prompted local concerns regarding safety.

- The WDFW and local landowners have expressed interest in an elk hunt on CLNWR. However, a lack of information on depredation complaints and herd data, herd management objectives and safety issues preempts the development of a hunting program.
- A specialized hunt—youth, ADA-accessible, or a limited entry—may be an option.

Issue 13: Waterfowl and Waterbirds

Key Messages

- CLNWR was established in 1964 under acquisition authority of the Migratory Bird Conservation Act “. . . for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. . .”.
- At least 25 species of waterfowl use the refuge during the year. Outside of species presence and seasonal use, little is known about population numbers, distribution and productivity of migratory birds. There have been no formal surveys to quantify waterfowl or waterbird use or reproductive success on CLNWR.
- Annual variability (availability, depth, distribution, timing) of wetlands and meadows—in large part a function of early drawdowns for private lands—is believed to have significant impacts on recruitment of waterfowl and waterbirds in some years.

Issue 14: Wildlife-dependent Uses

Key Messages

- Environmental education programs are delivered through the use of volunteers and partnerships with local groups.
- The National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) identified six priority public uses of refuges—hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation.
- Conboy Lake is part of the NWRS, the only federal lands that are managed primarily for the benefit of wildlife. The Improvement Act dictates that refuges will be managed for wildlife first, with public uses being allowed if they are compatible with the needs of wildlife, the mission of the NWRS and the purposes of the refuge.
- CLNWR is managing ever-increasing visitation and demand for visitor services programs with a very small staff.

- To date, emphasis has been placed on maintaining facilities, welcoming and orienting visitors, answering information requests and dealing with law enforcement issues.
- The visitor services programs are mostly self-serve through informational kiosks and a walking trail.
- Waterfowl hunting is allowed on CLNWR within the designated free roam hunt area in accordance with Washington State seasons and regulations, seven days a week, all day (dawn to dusk).
- Dove hunting is allowed on CLNWR, but very few, if any, harvests have been documented.
- Deer hunting is allowed on a designated 100-acre unit, but is of questionable quality due to the area restriction and deer population.

Issue 15: Effective Law Enforcement

Key Messages

- Law enforcement is currently covered by refuge officers stationed out of the MCRNWRC in Burbank, Washington.
- Because of the distance from the MCRNWRC office and the lack of waterfowl hunting pressure, law enforcement visits are limited to elk hunting season and a few periodic visits throughout the year.
- Most law enforcement coverage is provided by WDFW officers based out of Trout Lake, Goldendale and Vancouver.

Issue 16: Impacts of Development and Climate Change

Key Messages

- Temperature increases, documented over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change will likely lead to an earlier spring drying trend in the Glenwood Valley.

Issue 17: Staffing

Key Messages

- CLNWR is administered by the MCRNWRC in Burbank, and the Refuge Manager is headquartered at Toppenish National Wildlife Refuge in Toppenish, Washington. A full-

time, career-seasonal maintenance worker is stationed at the refuge. Typical staffing patterns include seasonal biologists and visiting crews of maintenance and fire personnel.

Key Public Involvement Dates

The milestones for development of the CLNWR CCP are:

Pre-planning CCP Documents to Regional Office.	September 2010
Federal Register Notice of Intent.....	November 2010
Initiate Public Outreach Through Public Scoping.....	December 2010
Public review of CCP.....	October 2011
Final CCP.....	January 2012

Public Outreach Plan: Action Plan and Tools

The core team will use this action plan to initiate and foster an ongoing dialogue with the public, agencies, organizations and governments regarding the CCP. The plan provides important information about target audiences, an extensive list of communication tools, team member responsibilities and a comprehensive mailing list.

Target Audiences

Creating an aware public is the first step in producing dynamic public involvement. A comprehensive list of potential audiences, their interests and the tools to reach them will be developed.

Elected Officials

All local, state and federal elected officials with a potential interest in CLNWR, and within whose legislative districts the refuge lies, will be contacted to inquire as to their level of interest in the CCP process and will be included on the mailing list for planning updates and other materials. Depending upon the level of interest, we will communicate with elected officials using a variety of methods (e.g., face-to-face briefings, tours of the refuge). Each elected official will receive a complete copy of the draft and final CCP.

Tribes

The Yakama Nation will be fully included in our planning process, and their designated contact person—should they choose to provide one—will be contacted personally by the Refuge Manager prior to each public input opportunity. Likewise, the Confederated Tribes of the Umatilla Indian Reservation and Wanapum will be kept fully informed.

Agencies

The key state agency that will be involved is the WDFW. Designated staff from the agency will be invited to be extended team members and will be asked to submit comments regarding the CCP during the draft review phase. Other agencies that will actively engaged include the WDOE, WDOT, WDNr, USFS, NRCS, BLM, BIA and county agencies. The invitation to submit comments will be issued with a letter to the responsible official for each agency.

Interest Groups

Many recreation, conservation and industry organizations are active in Washington. Some of these organizations have worked extensively with the refuge in the past. During this CCP process, FWS staff will make a concerted effort to identify key organizations and user groups and to ensure that these entities and organizations receive refuge mailings. FWS staff will meet and make presentations to community groups upon request. In certain situations we may initiate a meeting with a particular group to share information and clarify misunderstandings. These types of meetings will be conducted so as to comply with guidance of the Federal Advisory Committee Act (FACA).

General Public

The general public is a key audience of interest. This audience will be reached through press releases, planning updates, public open houses and the Internet. See below for more of these communication tools.

Communication Tools

Different audiences respond to different outreach techniques; therefore a diverse selection of potential communication tools will be developed.

Planning Updates

Planning updates will be completed at pertinent points in the planning process and will be mailed out to all parties on the mailing list. Planning updates will be written to provide specific information about the evolving CCP, including but not limited to, initiation of public outreach and scoping, announcement of public meetings, results of initial scoping, presentation of preliminary alternatives,

goals and objectives, presentation of draft CCP, solicitation of public review, results of public comments, and release of the final CCP.

Media Outreach

Press releases will be prepared simultaneously with any notice in the *Federal Register* and will be sent to all media on the mailing list. Generally, press releases will coincide with the passage into each new phase of the planning process (e.g., initiation of scoping, release of draft plan, release of final plan). Press releases will also be prepared in advance of any public meeting and following any significant meetings or workshops. The press releases will concisely summarize the event and will be accompanied by photos when appropriate.

Press stories and any requests for more in-depth information by the media will be accommodated by FWS staff as time allows. The Refuge Manager will be the key responsible official to coordinate media interview and story requests.

Federal Register notices will be published in accordance with government policies, but will not be considered a substitute for mass media press releases.

Public Meetings/Open Houses

In addition to briefings for elected officials, tribes, key agencies and interest groups if needed or requested, public meetings will be held for the general public.

All Public Meetings will be advertised by:

- A press release issued to all media on the mailing list.
- A notice in a planning update.
- An announcement posted on the refuge website.

A public scoping meeting will be held near the CLNWR headquarters, likely in Glenwood, Washington.

Internet

The MCRNWRC will maintain a website that offers an opportunity to reach the public via the internet. Links to planning updates and draft and final plans will be posted on the website and available for download by the public in Adobe Acrobat PDF format. A link to the free Adobe Acrobat Reader will be maintained on the same page so that interested readers may download the reader to view the file.

The MCRNWRC will maintain an email address to receive public comments for the CCP and will post this address on all planning updates. This e-mail address will be monitored by FWS staff on a regular basis.

Track and File Public Comments

FWS staff and External Affairs in the Regional Office will monitor newspapers for articles about CLNWR. Clippings of all articles and letters to the editor will be maintained in a chronological file, indexed and archived. Periodically, a copy of the index (and any key articles/letters) will be shared with the Division of Planning and Visitor Services, External Affairs and upper management. All articles published regarding this CCP will be scanned for the electronic record.

All letters, emails, and other comment formats received from the public will be kept on file at the refuge. A numbering system will be used to track comments chronologically. At key junctures in the process, public comment will be analyzed and summarized. These analyses will be shared with Planning and Visitor Services, External Affairs and upper management.

Mailing List

The mailing list (email and postal) for the CCP will be comprehensive and shall include FWS Regional and Washington Office representatives, Washington congressional delegations, the Washington Governor, WDFW, USFS, BIA, BLM, Native American governments, local and county governments, refuge friends groups and conservation organizations, as well as the key audiences identified above.

Toppenish National Wildlife Refuge Communications Plan

The U.S. Fish and Wildlife Service (FWS) is developing a Comprehensive Conservation Plan (CCP) to guide management of Toppenish National Wildlife Refuge (TNWR) for the 15 years following completion of the CCP. Public involvement in the planning process is crucial to the success of the development of a CCP. This communication plan identifies the timeline, strategies and key partners involved in addressing issues that are at the forefront of wildlife management on the TNWR and how the FWS will work to ensure those issues that concern the public are communicated in a clear and effective manner.

Public, Agency and Governmental Outreach and Communication

Including the public; local, state and federal agencies; interested businesses and other organizations; and other governments in the CCP process is critical to its success. Our public outreach goals include:

- 1) Providing information about the National Wildlife Refuge System (NWRS) and its mission, policies, goals and concepts, such as the CCP and refuge compatibility processes.
- 2) Informing interested parties about the mission, purposes and goals of TNWR.
- 3) Identifying concerns and desires for management of TNWR (scoping).
- 4) Clearly describing the decision-making process, including biological, legal and policy requirements.
- 5) Informing everyone of, and receive input regarding, public use and resource management issues for TNWR.
- 6) Building long-term support for the biological, cultural and visitor use programs implemented through the CCP process.
- 7) Continuing to build relationships between TNWR and local communities, adjacent land management agencies, interested organizations and tribal governments.
- 8) Continuing to strengthen partnerships with local, state and tribal governments; other agencies; private conservation organizations; and other groups through open communication and input during the CCP process.
- 9) Ensuring accuracy in published reports and other media contacts.

Audience/Interested Parties*Internal Audiences*

Key personnel to keep informed include upper management within Region 1 (e.g., Regional Director, Deputy Regional Director, Regional Chief of the NWRS, Refuge Supervisor, and Chief of Planning). Technical planning experts within the region and in the Washington Office will most likely be interested in viewing and commenting upon the draft CCP. Refuge managers, biologists and visitor service specialists from other refuges, national fish hatcheries and ecological services field offices will be kept informed of the TNWR CCP and may also serve as a source of technical expertise.

External Audiences

The list below is a summary of the entities that will be key targets during outreach for the CCP. Involved public will include stakeholders, adjacent landowners and managers, and all parties with the potential to be affected by the CCP and its process.

- Local governments, including Yakima County and the communities of Toppenish, Yakima, Union Gap, White Swan, Selah, Zillah, Sunnyside, Granger, Wapato and Grandview.
- State agencies, including the Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (WDNR), Washington Department of Ecology (WDOE) and Washington Department of Transportation (WDOT).
- Federal agencies, including other FWS offices and programs, Bureau of Indian Affairs (BIA), Natural Resources Conservation Service (NRCS), U.S. Forest Service (USFS), U.S. Geological Survey (USGS), and National Oceanic and Atmospheric Administration-Fisheries (NOAA).
- Yakama Nation.
- Local landowners.
- National, state and local chapters or offices of conservation organizations, including, but not limited to, Yakima Valley Audubon Society, Portland Audubon Society, National Audubon Society, The Nature Conservancy, and Ducks Unlimited.
- Affected businesses and industry/economic interest groups.
- Sportsman's groups.
- Chambers-of-Commerce.

- Public and private universities.
- Land trust organizations.
- The general citizenry from the surrounding counties.

Key Messages (Public Briefing Statements)

Key Messages About the CCP

- As part of the National Wildlife Refuge System Administration Act (Administration Act), as amended, all refuges require a 15-year CCP to guide their management activities.
- The CCP will be developed with participation by local, state and tribal governments; federal agencies; the public; conservation organizations; adjacent landowners; and affected businesses.
- The CCP will describe a range of management alternatives and evaluate the environmental, recreational and economic impacts anticipated under each alternative. The Refuge Manager has the primary responsibility to prepare the CCP and is the primary point of contact for the public. The Regional Director, as the final decision-maker, will approve the completed CCP.

Key Messages for TNWR

- In 1964 the Migratory Bird Conservation Commission (MBCC) authorized the acquisition of 1,978 acres to establish TNWR under the authority of the Migratory Bird Conservation Act “. . . for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. . .” TNWR provides wetland habitat for migratory and breeding habitat for waterfowl of the Pacific Flyway. A secondary purpose of the refuge is to be “. . . suitable for: (1) incidental fish and wildlife-oriented recreation development, (2) the protection of natural resources, and (3) the conservation of endangered species or threatened species.” (National Wildlife Refuge Recreation Act)
- TNWR was established to provide migratory and breeding habitat for waterfowl of the Pacific Flyway.
- TNWR currently encompasses approximately 1,978 acres in fee title ownership.
- TNWR lies within the Yakama Indian Reservation.

- Adjacent land surrounding the refuge is managed by the Yakama Nation and private landowners.
- TNWR is administered by the Mid-Columbia River National Wildlife Refuge Complex (MCRNWRC) in Burbank, Washington, and the Refuge Manager is headquartered at Toppenish National Wildlife Refuge in Toppenish, Washington.
- TNWR offers the public a range of outdoor recreational and educational opportunities, including hunting, fishing, wildlife observation, photography and environmental education.

Key Interested Parties for TNWR

- Adjacent and inholding landowners
- Chambers of Commerce: Toppenish, Yakima, Union Gap, White Swan, Selah, Zillah, Sunnyside, Granger, Wapato and Grandview
- City of Grandview
- City of Granger
- City of Selah
- City of Sunnyside
- City of Toppenish
- City of Union Gap
- City of Wapato
- City of White Swan
- City of Yakima
- City of Zillah
- Congressional delegations
- Cooperative Alliance for Refuge Enhancement (CARE)
- Defenders of Wildlife
- Ducks Unlimited
- Federal Highway Administration
- Isaac Walton League
- National Audubon Society
- Other interested individuals
- Safari Club International
- Sierra Club
- Sportsman groups
- The Nature Conservancy
- The Wilderness Society
- Toppenish City Council
- Toppenish School District
- U.S. Bureau of Indian Affairs
- U.S. Bureau of Land Management

- U.S. Forest Service
- U.S. Geological Survey
- U.S. Natural Resources Conservation Service
- Washington Department of Ecology
- Washington Department of Fish and Wildlife
- Washington Department of Natural Resources
- Washington Department of Transportation
- Washington State University
- Washington State University
- Washington Waterfowl Association
- Yakama Nation
- Yakima County Commissioners
- Yakima County Extension
- Yakima County Natural Resources
- Yakima County Noxious Weed Control Board
- Yakima County Public Works
- Yakima Valley Audubon Society

Anticipated Issues

The primary categories of issues that the FWS anticipates addressing as part of the CCP process for TNWR are resource protection, habitat management and visitor services. Under these broad categories, the specific issues are:

Issue 1: Wildlife and Habitat Management

Key Messages

- Refuge lands include the Headquarters Unit (1,243 acres) and 12 other independent tracts that total 735 acres. Eight of these tracts are upstream of the Headquarters Unit and four are downstream and cover a distance of 27 miles.
- The historic Toppenish Creek watershed has been altered significantly by draining, channeling, irrigation diversion, grazing, agricultural use and exotic vegetation and noxious weeds.
- Current management practices include prescribed fire, grazing, haying, water manipulation, chemical vegetation control and mechanical vegetation control via selective plowing and discing.

Issue 2: Water Rights

Key Messages

- Water for TNWR wetlands comes from three sources—the Wapato Irrigation Project (WIP), Toppenish Creek and Snake Creek.
- On the main Headquarters Unit, approximately 200 acres are permitted to receive WIP water, and approximately 455 acres are permitted to receive Toppenish Creek/Snake Creek water.
- Neither the periods of use nor the places of use meet current annual water demands.
- All Toppenish Creek water supplied to wetland units north of Toppenish Creek is pumped from the creek.
- Snake Creek, which is a lateral branch of Toppenish Creek, provides water to wetlands south of Toppenish Creek on the main Headquarters Unit.

Issue 3: Wetland Management

Key Messages

- A series of managed wetlands with water control structures and other infrastructure (e.g., low-level earthen dikes, rocked spillways) allow quality wetland habitat to be consistently provided for wintering and migrating waterfowl and other wetland wildlife.
- Refuge wetlands include both natural riparian floodplain areas and intensively managed wetlands. Water and vegetation management mimics natural floodplain processes and regulates succession of wetland plants.
- Unscreened diversion of water from Toppenish and Snake Creeks can entrain juvenile steelhead into the water management system and wetlands, potentially delaying or killing migrating juvenile fish.

Issue 4: Waterfowl Management

Key Messages

- TNWR was established in 1964 to provide an important link in the chain of feeding and resting areas for waterfowl and other migratory birds using the Pacific Flyway.

- While waterfowl numbers have declined since the peaks of the 1960's, TNWR wetlands are still a regionally important migration and wintering area used by thousands of birds annually. Key to this use is providing and maintaining quality habitat, which is relatively scarce in an area dominated by grazing and agriculture.

Issue 5: Invasive and Non-native Plants and Wildlife

Key Messages

- Nationwide, impacts from introduced and invasive species are considered to be the most critical issue facing wildlife refuges. Invasive species often pose a serious threat to native species through competition and predation.
- FWS staff employ an Integrated Pest Management (IPM) approach, using mechanical, physical, chemical and, where appropriate, biological controls to control pest species.
- Invasive species found within the refuge include reed canarygrass, perennial pepperweed, Canada thistle, Russian knapweed, and Scotch thistle.

Issue 6: Rare and Listed Species Recovery

Key Messages

- In early 1999, the National Oceanic and Atmospheric Administration-Fisheries (NOAA-Fisheries) listed the Mid-Columbia Steelhead Evolutionarily Significant Unit (ESU) as “threatened” pursuant to the Endangered Species Act of 1973 (ESA). Populations of the ESU occur in the Yakima Basin and, subsequently, Toppenish Creek.
- An important refuge issue is the passage of adult and juvenile steelhead at sites on Toppenish and Snake Creeks modified as part of TNWR’s water management system. These sites include gravity and pump diversions where juveniles may be entrained into the refuge’s water supply and obstructions or stream modifications that may impede adult steelhead migration.

Issue 7: Impacts of Development and Climate Change

Key Messages

- Documented temperature increases over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change, will lead to an earlier spring drying trend in the Columbia Basin. Therefore, the need to resolve TNWR water rights and efficiently utilize and manage water flows is critical to achieving refuge purposes.

Issue 8: Contaminants and Water Quality

Key Messages

- TNWR lies within the Yakima Valley, a highly agricultural area.

Issue 9: Wildlife-dependent Uses

Key Messages

- The National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) identified six priority public uses—hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation.
- Toppenish is part of the NWRs, the only federal lands that are managed primarily for the benefit of wildlife. The Improvement Act dictates that refuges will be managed for wildlife first, with public uses being allowed if they are compatible with the needs of wildlife, the mission of the NWRs and the purposes of the refuge.
- TNWR must manage ever-increasing visitation and demand for visitor services programs with a very small staff.
- To date, emphasis has been placed on maintaining facilities, managing the hunting program, welcoming and orienting visitors, answering information requests and dealing with law enforcement issues.
- The visitor services programs are mostly self-serve through informational kiosks and a walking trail.
- Environmental education programs are delivered through the use of volunteers and partnerships with local groups.
- Waterfowl hunting is allowed on TNWR in accordance with Washington State seasons and regulations within the designated hunt area.

Issue 10: Effective Law Enforcement

Key Messages

- Law enforcement is currently covered by refuge officers stationed out of the MCRNWRC in Burbank, Washington.

- Because of the distance from the MCRNWRC office and overall size of the hunt program, law enforcement visits are limited to a few periodic visits throughout the year.

Issue 11: Staffing

Key Messages

- TNWR is administered by the MCRNWRC in Burbank, and the Refuge Manager is headquartered at TNWR. A full-time engineering equipment operator is stationed at the refuge. Typical staffing patterns include seasonal biologists and visiting crews of maintenance and fire personnel.

Key Public Involvement Dates

The milestones for development of the CLNWR CCP are:

Pre-planning CCP Documents to Regional Office.	September 2010
Federal Register Notice of Intent.	November 2010
Initiate Public Outreach Through Public Scoping.	December 2010
Public review of CCP.	October 2011
Final CCP.	January 2012

Public Outreach Plan: Action Plan and Tools

The core team will use this action plan to initiate and foster an ongoing dialogue with the public, agencies, organizations and governments regarding the CCP. The plan provides important information about target audiences, an extensive list of communication tools, team member responsibilities and a comprehensive mailing list.

Target Audiences

Creating an aware public is the first step in producing dynamic public involvement. A comprehensive list of potential audiences, their interests and the tools to reach them will be developed.

Elected Officials

All local, state and federal elected officials with a potential interest in CLNWR, and within whose legislative districts the refuge lies, will be contacted to inquire as to their level of interest in the CCP process and will be included on the mailing list for planning updates and other materials. Depending upon the level of interest, we will communicate with elected officials using a variety of methods (e.g., face-to-face briefings, tours of the refuge). Each elected official will receive a complete copy of the draft and final CCP.

Tribes

The Yakama Nation will be fully included in our planning process, and their designated contact person—should they choose to provide one—will be contacted personally by the Refuge Manager prior to each public input opportunity. Likewise, the Confederated Tribes of the Umatilla Indian Reservation and Wanapum will be kept fully informed.

Agencies

The key state agency that will be involved is the WDFW. Designated staff from the agency will be invited to be extended team members and will be asked to submit comments regarding the CCP during the draft review phase. Other agencies that will actively engaged include the WDOE, WDOT, WDNR, USFS, NRCS, BLM, BIA and county agencies. The invitation to submit comments will be issued with a letter to the responsible official for each agency.

Interest Groups

Many recreation, conservation and industry organizations are active in Washington. Some of these organizations have worked extensively with the refuge in the past. During this CCP process, FWS staff will make a concerted effort to identify key organizations and user groups and to ensure that these entities and organizations receive refuge mailings. FWS staff will meet and make presentations to community groups upon request. In certain situations we may initiate a meeting with a particular group to share information and clarify misunderstandings. These types of meetings will be conducted so as to comply with guidance of the Federal Advisory Committee Act (FACA).

General Public

The general public is a key audience of interest. This audience will be reached through press releases, planning updates, public open houses and the Internet. See below for more of these communication tools.

Communication Tools

Different audiences respond to different outreach techniques; therefore a diverse selection of potential communication tools will be developed.

Planning Updates

Planning updates will be completed at pertinent points in the planning process and will be mailed out to all parties on the mailing list. Planning updates will be written to provide specific information about the evolving CCP, including but not limited to, initiation of public outreach and scoping, announcement of public meetings, results of initial scoping, presentation of preliminary alternatives, goals and objectives, presentation of draft CCP, solicitation of public review, results of public comments, and release of the final CCP.

Media Outreach

Press releases will be prepared simultaneously with any notice in the *Federal Register* and will be sent to all media on the mailing list. Generally, press releases will coincide with the passage into each new phase of the planning process (e.g., initiation of scoping, release of draft plan, release of final plan). Press releases will also be prepared in advance of any public meeting and following any significant meetings or workshops. The press releases will concisely summarize the event and will be accompanied by photos when appropriate.

Press stories and any requests for more in-depth information by the media will be accommodated by FWS staff as time allows. The Refuge Manager will be the key responsible official to coordinate media interview and story requests.

Federal Register notices will be published in accordance with government policies, but will not be considered a substitute for mass media press releases.

Public Meetings/Open Houses

In addition to briefings for elected officials, tribes, key agencies, interest groups if needed or requested, public meetings will be held for the general public.

All Public Meetings will be advertised by:

- A press release issued to all media on the mailing list.
- A notice in a planning update.
- An announcement posted on the refuge website.

A public scoping meeting will be held near the TNWR headquarters, likely in Toppenish or Yakima, Washington.

Internet

The MCRNWRC will maintain a website that offers an opportunity to reach the public via the internet. Links to planning updates and draft and final plans will be posted on the website and available for download by the public in Adobe Acrobat PDF format. A link to the free Adobe Acrobat Reader will be maintained on the same page so that interested readers may download the reader to view the file.

The MCRNWRC will maintain an email address to receive public comments for the CCP and will post this address on all planning updates. This e-mail address will be monitored by FWS staff on a regular basis.

Track and File Public Comments

FWS staff and External Affairs in the Regional Office will monitor newspapers for articles about TNWR. Clippings of all articles and letters to the editor will be maintained in a chronological file, indexed and archived. Periodically, a copy of the index (and any key articles/letters) will be shared with the Division of Planning and Visitor Services, External Affairs and upper management. All articles published regarding this CCP will be scanned for the electronic record.

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Mailing List

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Conboy Lake National Wildlife Refuge Preliminary Issues Identification

Issue 1: Land Acquisition/Exchanges/Conservation Agreements

How will the refuge acquire inholdings? If the refuge is unable to acquire inholdings, what actions will be pursued in order to provide suitable wildlife habitat, e.g. water management?

The approved acquisition boundary for CLNWR is 9,245 acres. The refuge currently encompasses approximately 6,500 acres in fee title ownership, plus a 700-acre easement. This easement restricts the development of the tract, but it does not allow FWS management or monitoring of the site.

CLNWR is interspersed with private ranches and timberlands within the refuge boundary. This mixed ownership has resulted in negative impacts on some refuge resources due to: 1) early water drawdowns via private water control structures; 2) contiguous FWS and private habitats that are subject to both documented and undocumented mutual agreements for drying, vegetation removal and other mechanical disturbances for haying operations on both refuge and private lands; 3) agreements for ditch maintenance with the Klickitat Drainage District #1 (KDID); and 4) trespass cattle grazing. Acquisition or exchange of key inholdings continues to be crucial for fulfilling the long-term goals of CLNWR.

Issue 2: Water Rights

Does CLNWR receive all of its allotted water? How will the refuge manage points of diversions within private lands? How will the refuge manage untimely water delivery actions by other users that affect refuge management? What are the water rights associated with springs?

There are three types of water rights on CLNWR—water right claims, state-appropriated water rights and decreed water rights.

A decreed water right is determined to have existed prior to 1917 and the establishment of the Washington Water Code. Decreed water rights are determined through water rights adjudication. Bird Creek and Frazier Creek were adjudicated in 1918, and the water rights for all landowners at the time are listed in the Bird Creek and Frazier Creek Decree.

A water right claim is for a water right or beneficial use that existed prior to 1917 and the establishment of Washington Water Code, but one that has not been adjudicated yet. On CLNWR only Bird Creek and Frazier Creek have been adjudicated.

Washington State appropriative water rights are rights that have been obtained through the usual permitting process established by the Washington Water Code.

In general, natural water flows are sufficient from November through April to fill all of the wetlands and prairies on CLNWR. Since the refuge is situated at the bottom of the basin, and ultimately receives almost all tailwaters from upstream users, it generally receives sufficient water when available. Because the refuge is located at the end of the water delivery system, it has also received unexpected water flows which have compromised management actions (such as drawdowns, flooded hay bales).

There are four diversion points off of the refuge. The significance of having points of diversion off the refuge is that we may have to access private property to manage the diversion.

CLNWR has acquired several tracts during the past decade since a 1991 water rights review. Water rights for these sites have not been evaluated, and currently water flows are not diverted effectively for flooding these lands.

Documented temperature increases over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change, will lead to an earlier spring drying trend in the valley. Therefore, the need to resolve CLNWR water rights and efficiently utilize and manage water flows is critical to achieving refuge purposes.

Issue 3: Water Management

How will CLNWR manage water to provide suitable wildlife habitat with respect to private lands? What is the most efficient use of delivery water within the refuge? How will the refuge manage water delivery system maintenance? What actions should the FWS take to sustain and restore priority habitats over the next 15 years?

CLNWR manages approximately 3,500 acres of wet prairie, emergent marsh and seasonally flooded scrub-shrub and forest land habitats, which encompasses approximately 54% of the refuge. Water management is the single most important management issue on the refuge and within the Glenwood Valley. The habitat is important due to its biodiversity, juxtaposition within the broader geographic landscape and its remaining populations of rare wildlife and plants. In general, the goal is to manage wetlands that mimic the natural hydrology of the basin, where feasible. This includes maintaining the large contiguous wet prairie system (Camas Prairie) and the Conboy Lake wetland system.

The main hydrologic input to CLNWR is Bird Creek. Chapman, Holmes and Frazier Creeks, along with several springs, provide additional seasonal flows. Chapman and Holmes Creeks provide early season water, whereas Bird Creek provides water later in the growing season due to the Hellroaring Irrigation District's ability to shunt irrigation water to valley users. The only output from the refuge is Outlet Creek, which was channelized approximately 100 years ago. Water management on

CLNWR requires using all creek and sheet water flows entering Glenwood Valley. All of these flows have been diverted and/or modified into delivery and drainage ditches with associated dikes, water control structures, spillways and many miles of minor ditches. Water management on the refuge is constrained due to the inability to control water on private lands (inholdings), failing dikes, plugged ditches, undersized culverts and lack of water control structures.

Challenges regarding water management on CLNWR include: 1) the KDID's annual draining and irrigation of the Camas Prairie, and to a lesser extent Conboy Lake, for cattle grazing and haying by private landowners in the valley; 2) the KDID has the authority to dredge specific waterways (such as Camas Ditch/Outlet Creek) on the refuge when they become choked with vegetation or silt; and 3) the refuge does not have the complete infrastructure required to control water independently from the KDID and other landowners. Historically, Glenwood Valley was ditched and drained to promote agricultural practices (farming, haying, grazing). As a result, much of the Camas Prairie is still annually drained to facilitate the production of hay and provide grass pastures on inholdings. These early drawdowns directly affect refuge management and subsequently have negative impacts on wildlife and plant resources, particularly crane and waterfowl production.

Issue 4: Wet Meadow and Riparian and Stream Habitat Management

What actions should the FWS take to sustain and restore priority habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland habitats? How will the FWS manage the long-term viability of wet meadows in response to pine encroachment? How will the FWS approach managing or controlling reed canarygrass?

These habitats are best characterized by the Camas Prairie and the areas including and surrounding the historic Conboy and Swan Lakes. Annual water inundation varies considerably depending on the unit location, rainfall and snowpack, ability to flood/irrigate from the Bird Creek system, haying and specific unit vegetation and management needs.

These areas are dominated by reed canarygrass, which may be differentially expressed annually depending on weather and water conditions. The Camas Prairie and other open sites are generally scoured of taller vegetation by winter ice and winds. Protected sites, however, often develop thick stands of canarygrass, which displace native species.

The prairie habitats support a diversity of wildlife species, including invertebrates, amphibians, marsh birds, waterfowl and sandhill cranes. This habitat supplies essentially all the breeding habitat for the state endangered Oregon spotted frog in the Glenwood Valley, as well as that of other amphibians. It is essential for sandhill crane rearing/foraging habitat and supports nearly all breeding and active season habitat for rails, Wilson's snipe and American bitterns, and it supplies brood habitat for waterfowl.

Management of the prairie habitat is complicated by five private inholdings. Because these inholdings are hayed and grazed, they require a water regime that conflicts with wildlife and habitat needs. Because the refuge's portion of the prairie (920 acres) is not hydrologically isolated from the private lands (320 acres), early dewatering of inholdings concurrently dries up refuge lands. Initiation of drawdowns starts as early as April in some years and occurs during the breeding season of many of the wet prairie-dependent species. Documented impacts include drying of water around sandhill crane nests and desiccation of spotted frog egg masses. These are the earliest breeding species, so it is assumed that other nesting species are impacted more severely.

Widespread encroachment of lodgepole pine and Douglas spiraea into wet meadow and prairie habitats on the refuge is a problem. Ponderosa pine can encroach into drier sites. This woody encroachment degrades prime breeding habitats for sandhill cranes and Oregon spotted frogs. This condition is likely caused by nearly a century of early dewatering.

Riparian habitats occur primarily along Bird Creek and some of the smaller ditches on CLNWR. Aspens, alders and willows are the dominant native woody species within the riparian corridors. The historical extent of riparian likely was limited to stream systems that entered or exited the valley. More riparian habitat may exist today due to its association with the miles of constructed ditches and re-channelization of creeks that has occurred during the past century. The potential riparian habitat acreage is relatively small in the valley.

Woody vegetation along the constructed dike system poses maintenance, management and access issues. Tree roots compromise dike integrity, and downed trees block waterways making water management difficult. Beavers are likewise attracted to riparian areas; their dams, bank burrows, felled trees and runways cause additional management problems. Although canopy cover provides shade along water courses, it may also shade out submergent and floating plants which provide substrates for invertebrate food resources and predator escape cover for Oregon spotted frogs. Therefore, there is a need to balance riparian cover with other aquatic species requirements.

Issue 5: Short-Grass Management (Wet Prairie and Upland Meadow)

What actions should the FWS take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland habitats? How should the refuge consider utilizing haying, grazing, or prescribed fire as a management tool? What alternative options exist in the absence of a haying program? How will the FWS approach managing or controlling reed canarygrass?

Haying is utilized on CLNWR lands to reduce the cover of reed canarygrass. There has been little change in the haying program since the refuge was established. There are 31 hay allotments that total approximately 2,325 acres of upland and wet meadows; however, less than one-half of that total is currently hayed. There are eight permittees that cut and harvest about 1,500 tons of hay annually on approximately 1,100 acres of the refuge. Recent surveys indicate there will be less of

a demand for hay in the valley due to changing economic conditions. Haying operations begin August 1st to protect nesting and flightless migratory birds; all hay is required to be removed by September 15 to allow flood-up of wetland units.

Reed canarygrass is widespread in wet meadows on the refuge. Management consists primarily of mowing or haying later in the growing season. This method does not reduce infestations, but it serves to open up rank, densely vegetated areas, making them more useful for wildlife. Haying is used to: 1) improve Oregon spotted frog breeding sites (short vegetation, warmer spring soil temperatures), especially where canarygrass is prevalent; 2) provide winter and spring green forage habitat for Canada geese; 3) enhance foraging opportunities for sandhill cranes (access to invertebrates and small vertebrates); 4) reduce encroachment by woody species; and 5) provide open areas of water for wintering and migrating waterfowl.

It is estimated that over 1,100 acres of reed canarygrass-infested wet meadows exist that are not currently treated on the refuge. The condition of these sites, and their suitability for haying or other management to produce short-grass habitat, is unknown. The haying program needs to be evaluated to ensure that short-grass management needs are being met without compromising native vegetation.

Prescribed fire can be utilized as an effective management tool to remove dense, rank vegetation, woody encroachment and accumulated debris, particularly in areas that are unsuitable for machinery. From refuge establishment to date, there have not been any prescribed fires targeting prairie or meadow management. Fire is needed as an initial step to access and evaluate some of these wet prairie and upland grass units before they can be fully evaluated for other management regimes.

Grazing was also used until 1976, when it was found incompatible due to negative environmental effects to habitats and priority species. As a result, many of the grazing units were converted to haying units. Trespass grazing is an annual issue as fences frequently fail due to winter ice flows, elk damage, or fence and gate disrepair. A few areas of the refuge (southwest) are unfenced and subject to trespass (open-range) cattle grazing. High stocking rate grazing has been used in a few circumstances where dense stands of canarygrass could not be accessed by mowers.

Mowing has been used sporadically, but it has been under-utilized as a tool for short-grass management. Mowing does occur annually on dike tops that must be kept open for routine staff operations. Mowing can be an effective technique to maintain short vegetation along prairie and wetland margins within spotted frog breeding areas.

Issue 6: Upland Meadow Management

What actions should the FWS take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on upland habitats? How will the FWS manage the long-term viability of upland meadows in response to pine encroachment? How should CLNWR consider utilizing haying, grazing, or prescribed fire as a management tool?

CLNWR contains approximately 1,125 acres of dry upland meadows providing a diverse transition zone between the wet meadows and forested areas. The upland meadows range from saturated soil during the winter-spring months to very dry soils in summer.

Many of the upland meadows are threatened by encroachment of Ponderosa and lodgepole pines. Cutting and removal of these pines has occurred, primarily the younger trees, and this control effort has increased in recent years and has targeted larger diameter pines. Upland meadows in this region are a fire-dependant habitat, and fire can be used to maintain the vigor of native upland grasses and forbs. Prescribed fire can be used as a tool to reduce woody encroachment and improve native plant vigor, but has been underutilized in the past.

Issue 7: Forest Management

What actions should the FWS take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on forested habitats? How should CLNWR consider utilizing commercial thinning and prescribed fire as a management tool?

Forested habitat on CLNWR totals approximately 2,000 acres, primarily around the perimeter of the prairie and wetland units. Although most of the refuge forest acreage is small, much of it abuts private and corporate timber lands and functions within the larger landscape. Scattered patches of forest also occur within the wetland units on higher ground.

CLNWR forest stands can be roughly lumped into 5 categories—Ponderosa pine forest, lodgepole pine forest, mixed conifer stands, quaking aspen stands and Oregon white oak woodlands.

Forests on and adjacent to the refuge were logged approximately 60-80 years ago and are relatively even-aged. Aside from a couple of small prescribed fires within the ponderosa pine habitat (1989 and 1991), there have been no forest management practices conducted on the refuge. The *Silvicultural Report and Recommendations for Conboy Lake National Wildlife Refuge Forest Stands* is an assessment of the forest habitats and silvicultural needs for each of these forest types on the refuge. This report found that forest stands generally are too densely populated due to lack of fire and/or thinning; forest canopy layers are lacking; snag density is low; and forest openings are lacking. Overall, CLNWR's forested habitats are still in relatively good health, but they are in need of management to attain the features and vegetative structure necessary for optimizing wildlife values.

Specific forest stand prescriptions are contained within the silvicultural report and should be incorporated into the CCP as forest management recommendations.

Issue 8: Invasive and Non-native Plants and Wildlife¹

How will the FWS control invasive species and prevent new invasives from becoming established? What are the most appropriate strategies for controlling invasive species on the refuge?

Although there are only a small number of invasive species on CLNWR, they are widespread and problematic. FWS staff employs an integrated pest management (IPM) approach using mechanical, physical, chemical and, where appropriate, biological controls to control pest species.

Meadow knapweed is the most prevalent invasive plant occurring on the refuge. It invades upland and wet meadows on the refuge, as well as similar areas on adjacent private land. The seed head weevil, a biological control agent, was released over 20 years ago on the refuge to control meadow knapweed. This weevil is well-established and can be found in most stands of knapweed. Although this weevil is relatively effective in reducing reproduction, it does not kill the plant. Herbicides have been used strategically in the past to help control infestations.

Other invasive, but less prevalent, non-native plants include Bachelor buttons, diffuse knapweed, common St. John's wort, Scotch broom and Canada thistle.

The non-native bullfrog is fairly common on the refuge. Studies indicate that bullfrogs can prey heavily on native frog species (including Oregon spotted frogs). Some ineffective control efforts have been carried out in the past on adults and juveniles. Water management can be used as an effective method to reduce tadpole survival by drying up seasonal wetlands completely by early fall. However, widespread drawdowns for tadpole control can conflict with the need to provide late season waterbird brood habitat.

Brown bullheads are not native to the refuge, and they occur in virtually all permanent and seasonal wetlands. There is no information about the impacts of bullhead on the native wildlife or ecology of the prairie and wetlands. However, in other areas they are known to eat frog tadpoles.

Issue 9: Oregon Spotted Frog Management

What is the CLNWR's role in assisting in Oregon spotted frog recovery, while at the same time meeting refuge purposes to provide migration habitat for waterfowl? What actions can be taken to protect and restore habitat values for Oregon spotted frogs?

The Oregon spotted frog is listed as endangered by the state of Washington and is a federal candidate species. CLNWR and the surrounding private lands within the Glenwood Valley are one

¹ Invasive species are generally defined as non-native species that harm or have the potential to harm the environment, economy and/or human health when present in an area. Invasive species often pose a serious threat to native species through competition and predation.

of the few areas where Oregon spotted frogs are known to remain in Washington. This population is the largest remaining across its historic geographic range.

Oregon spotted frogs are one of the most aquatic ranid frog species and the most aquatic native ranid frog in western North America. They require permanent waters (mainly creeks, ditches and springs) of sufficient depth and flow to overwinter, presumably because such sites provide shelter from freezing with sufficient oxygenation. Breeding occurs within the seasonal wetlands (late February to April), and metamorphs start appearing in June. Physical barriers between permanent waters and breeding sites due to the diking system may hinder frog movements into appropriate breeding sites, as well as metamorph dispersal into the permanent waters.

Beaver activity creates considerable habitat for Oregon spotted frogs (and other wildlife). Beaver dams provide low-flow, stable water conditions that promote invertebrate populations, provide rearing areas and enhance vegetative diversity within the pond system. Dams and lodges contain a complex matrix of logs and branches through which flow maintains high levels of dissolved oxygen. Dams and ponds also limit freezing in a microhabitat relatively secure from predators, and thus provides ideal frog overwintering sites. Beaver dams are also active seasonal refuges secure from most predators. However, beaver dams have historically been actively removed by FWS staff and private landowners to increase water flows.

Water control infrastructure, and the periodic dredging to remove silt, vegetation and in-stream obstructions, often conflicts with the needs of Oregon spotted frogs, particularly at overwintering sites.

Despite considerable knowledge about the habitat and management requirements for Oregon spotted frogs, management remains complex as habitat needs and the abatement of other stressors often conflict with the conventional intensive wetland management that occurs on the refuge. Water management related to private inholdings (early drawdowns), dredging of overwintering creeks and ditches, continued failure of water control infrastructure, removal of beaver dams and the recently discovered presence of *Chytridiomycosis* within the frog population are probably suppressing population recovery.

Issue 10: Rare Plant Management

What is CLNWR's role in assisting in rare plant recovery, while at the same time meeting refuge purposes to provide migration habitat for waterfowl? What actions can be taken to protect and restore habitat values for rare plants?

CLNWR is botanically rich, lying in a transition zone between the lush high mountains surrounding Mt. Adams and the drier foothills to the east. The refuge supports populations of one Washington State endangered and three threatened plant species. CLNWR also supports other state sensitive/rare

plant species, which can be found in the several refuge plant species inventories that have been compiled by native plant groups.

Most of the unique and rare plants are wet prairie associates. The wet prairie species of primary management concern are Oregon coyote-thistle, rosy owl-clover, Kellogg's rush, dwarf rush and long-bearded sego lily. The refuge is believed to support the largest and healthiest populations of these plants in the state, other than Kellogg's rush which may be extirpated. These plants are impacted by permanent water management regimes, trespass cattle grazing, haying and invasive species.

Two rare plant species are associated with openings within the Ponderosa pine forests—Suksdorf's milk-vetch and Pulsifer's monkey-flower. Suksdorf's milk-vetch may be impacted from fire suppression within the forest community, which has led to canopy closures not conducive for maintaining the shrub communities associated with this plant. Pulsifer's monkey-flower is primarily a grassland-forb community associate and may be impacted by non-native plant species and encroachment by shrub and tree species.

Issue 11: Sandhill Crane Management

What is CLNWR's role in assisting in the greater Sandhill crane recovery, while at the same time meeting refuge purposes to provide migration habitat for waterfowl? What actions can be taken to protect and restore habitat values for greater Sandhill cranes?

The greater Sandhill crane is listed as endangered by the WDFW. CLNWR supports 80-90% of the known nesting cranes in Washington. Nesting was first confirmed on the refuge in 1979.

The number of breeding pairs on the refuge has increased from seven (1995) to 21 (2008). During that same time period, the number of individual cranes (breeding population) in Washington (on and off refuge) increased from 22 to 64. Despite this growth, the number of nesting pairs has remained relatively stable over the past five years.

Predation of crane eggs and colts is suspected to come primarily from predatory birds and coyotes; however, these causes have not been well documented. Water management (or lack of capability) can lead to nest loss by drying (increasing predation) or flooding. Water elevations need to remain fairly stable during the nesting period (April-May), and drawdowns need to occur slowly to provide rearing habitat for colts. Ideally, wet meadows should retain some water for roosting and brood habitat through July.

Haying in the Glenwood Valley occurs predominantly from mid-July through September. Hay operations, and the resulting human disturbance, can drive cranes off territory and remove valuable portions of cover, endangering unfledged colts. There has not been any documented mortality of crane colts on the refuge directly attributable to haying operations, but this problem has been noted

at other sites. To avoid potential issues during haying, there is an August 1 initiation date for haying on refuge lands.

Issue 12: Elk Management

What is CLNWR's role in managing elk within the state's elk management unit? Is elk hunting a viable public use opportunity on the refuge?

The refuge supports a population of elk during much of the year. This population appears to be increasing annually. Prior to 1980, elk were rarely observed in the Glenwood Valley and apparently arrived in the area following the Mount Saint Helens volcanic eruption.

The elk population appears to be expanding its range and herd size, though there have been no long-term surveys conducted to assess population trends and range within the Glenwood Valley. From April 2005 to June 2006, FWS and WDFW staff initiated monthly elk surveys to document population size and seasonal use of the valley. The total number of elk counted per survey varied from 0 (December 2005 and January 2006) to 359 (April 2005). The December and January low was expected and consistent with information that the elk herd moves out of the valley during the winter months. The peak counts occurred during April 2005 (n=359) and April 2006 (n=333). The refuge is used for calving, and the first calves are observed mid-May.

Habitat impacts in the form of elk trails in both wetlands and timbered areas appear to be increasing, and erosion of stream banks at elk crossings is evident throughout the refuge. Continual erosion at these sites ultimately leads to dike overtopping, which complicates water management. Forage conditions also seem to have improved on the refuge with improved wetland conditions and a concurrent increase in shrubs and small trees. Multiple long-term factors appear to be driving the increasing elk use of the valley.

Elk depredation has been a suspected periodic problem in nearby agricultural fields for many years. Elk damage generally occurs in grain fields starting in August. Conversely, elk depredation in Trout Lake is primarily on spring forage crops. In conjunction with potential crop damage issues, elk hunting within and around the town of Glenwood has been controversial. Over the past several years, unethical and reckless hunting on private lands has prompted local concerns regarding safety.

The WDFW and local landowners have expressed interest in an elk hunt on CLNWR. However, a lack of information on depredation complaints and herd data, herd management objectives and safety issues preempts the development of a hunting program. There is general agreement that a refuge elk hunting program will not resolve the depredation issue and that a hunt may actually exacerbate the problem off-refuge by driving elk onto private lands. There is not sufficient habitat damage data to support pursuing a regular elk hunting season on the refuge, and it is felt that a more liberal hunt may be problematic due to safety concerns (nearby residences and roads), disturbance

to other refuge resources and timing conflicts with management activities and other public uses. A specialized hunt—youth, ADA-accessible, or a limited entry—may be an option.

Elk observation is a popular spring and fall pastime for CLNWR visitors; therefore, maintaining these viewing opportunities is important and should not be compromised by other refuge programs.

Issue 13: Waterfowl and Waterbirds

Where should specific waterfowl management tools and techniques be utilized? What role should CLNWR play in providing migrating waterfowl habitat and hunting areas within the Pacific Flyway?

At least 25 species of waterfowl use the refuge during the year. Outside of species presence and seasonal use, little is known about population numbers, distribution and productivity of migratory birds. There have been no formal surveys to quantify waterfowl or waterbird use or reproductive success on CLNWR.

It is estimated that as many as 200,000 Taverner's/lesser/western Canada geese may pass through the refuge and the surrounding agricultural lands during the spring migration. Over 3,000 greater white-fronted geese have been noted in recent years, while Wrangle Island snow goose numbers generally average less than 200.

Marsh birds can be abundant, particularly during wet years; however, no quantifiable population information exists. Brood water on and off the refuge is generally lacking due to the valley-wide practice of private landowners draining lands for hay and pasture. In addition, permanent or late season waters for brood rearing can be restricted by efforts to control bullfrogs and wetland drawdowns necessary to promote native vegetation, such as sedges.

Winter bird use is generally low, as open waters often freeze by late November and remain so into March. As with breeding, there have not been any surveys to determine populations of wintering and migratory waterfowl. Annual winter and migratory waterfowl use can vary considerably depending on forage conditions both on and off the refuge, ice and snow cover, and timing of late winter storm events.

Annual variability (availability, depth, distribution, timing) of wetlands and meadows—in large part a function of early drawdowns for private lands—is believed to have significant impacts on recruitment of waterfowl and waterbirds in some years. However, the lack of both refuge and regional data makes it difficult to discern if these perceived population trends are a function of valley-specific or regional habitat conditions. In general, mid-summer through fall water availability is confined to the three creeks and the major ditches in the valley.

Issue 14: Wildlife-dependent Uses

What types of improvements to wildlife-dependent uses can be provided to enhance public enjoyment and ensure a quality experience for refuge visitors? How will CLNWR meet the increasing demand for safe, accessible, high-quality wildlife-dependent recreation opportunities in the future? How will the refuge provide visitors with safe and ADA-accessible access? How will the refuge improve the quality of the hunting program? How will CLNWR address the impacts of increasing visitation on wildlife and minimize impacts to priority species?

The National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) identified six priority refuge uses—hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation. These uses receive enhanced consideration in planning and management over all other general public uses on refuges. When compatible with refuge purposes, these wildlife-dependent recreational uses are to be strongly encouraged. These uses, as well as other current or proposed uses, receive an extensive compatibility review in the CCP before being allowed. Under the FWS compatibility policy (603FW2), refuges with limited staffing and funding are required to make efforts to obtain additional resources or outside assistance to provide wildlife-dependent recreational uses and to document those efforts before determining that any of these uses are not compatible.

CLNWR must manage ever-increasing visitation and demand for visitor services programs with a very small staff. This affects all visitor services programs; however, it is more problematic for certain programs (e.g., waterfowl hunting and environmental education) than others (wildlife observation.) To date, emphasis has been placed on maintaining facilities, welcoming and orienting visitors, answering information requests and dealing with law enforcement issues. The visitor services programs are mostly self-serve through informational kiosks and a walking trail. Currently, “best guesses” are being used to estimate visitation. Environmental education programs are delivered through the use of volunteers and partnerships with local groups.

Waterfowl hunting is allowed on CLNWR within the designated free roam hunt area in accordance with Washington State seasons and regulations, seven days a week, all day (dawn to dusk). Hunting pressure is light to moderate and is concentrated mainly in response to Canada goose activity late in the season.

Dove hunting is allowed on CLNWR, but very few, if any, harvests have been documented.

Deer hunting is allowed on a designated 100-acre unit, but is of questionable quality due to the area restriction and deer population.

Issue 15: Effective Law Enforcement

How does CLNWR create a stronger law enforcement presence to better facilitate effective management, reduce law enforcement violations and reduce user group conflicts?

Law enforcement is currently covered by refuge officers stationed out of the MCRNWRC in Burbank, Washington. Because of the distance from the MCRNWRC office and the lack of waterfowl hunting pressure, law enforcement visits are limited to elk hunting season and a few sporadic visits throughout the year. Most law enforcement coverage is provided by WDFW officers based out of Trout Lake, Goldendale and Vancouver.

Most reports of violations occur during elk season. Several incidences of elk poaching have occurred on the refuge in the recent past.

Issue 16: Impacts of Development and Climate Change

How should CLNWR address the impact of increasing development, and ultimately a reduction in open space, of adjacent lands on its wildlife and habitat? How will the refuge address the potential impacts of climate change?

Temperature increases, documented over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change will likely lead to an earlier spring drying trend in the Glenwood Valley.

Issue 17: Staffing

What staffing levels are needed to maintain current management operations at CLNWR? How will the refuge address the staffing limitations?

CLNWR is administered by the MCRNWRC in Burbank, and the Refuge Manager is headquartered at Toppenish National Wildlife Refuge in Toppenish, Washington. A full-time, career-seasonal maintenance worker is stationed at the refuge. Typical staffing patterns include seasonal biologists and visiting crews of maintenance and fire personnel.

Toppenish National Wildlife Refuge Preliminary Issues Identification

Issue 1: Wildlife and Habitat Management

What actions should the FWS take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland and upland habitats? How should the refuge consider utilizing haying and grazing as a management tool?

Refuge lands include the Headquarters Unit (1,243 acres) and 12 other independent tracts that total 735 acres. Eight of these tracts are upstream of the Headquarters Unit and four are downstream and cover a distance of 27 miles. The historic Toppenish Creek watershed has been altered significantly by draining, channeling, irrigation diversion, grazing, agricultural use and exotic vegetation and noxious weeds. Although the natural vegetation, hydrology and topography have been altered, some natural processes, such as flooding and fire, continue to influence the area. Management practices—such as prescribed burning, water management and selective mechanical and chemical control of vegetation—are used to mimic and/or enhance natural processes and manage plant succession in the habitats associated with Toppenish Creek. Combining management practices and natural processes ensures that many elements of biological diversity are maintained and provides a spectrum of healthy habitats and species diversity. Current management practices include prescribed fire, grazing, haying, water manipulation, chemical vegetation control and mechanical vegetation control via selective plowing and disking.

Issue 2: Water Rights

Has TNWR secured all of the necessary permitted water sources? What alternatives exist to utilize non-pumped (free) water for the wetlands?

Water for TNWR wetlands comes from three sources—the Wapato Irrigation Project (WIP), Toppenish Creek and Snake Creek. On the main Headquarters Unit, approximately 200 acres are permitted to receive WIP water, and approximately 455 acres are permitted to receive Toppenish Creek/Snake Creek water. The period of use for WIP water is April 1 to October 1, and the period of use for Toppenish Creek/Snake Creek water is October 1 to April 1. Neither the periods of use nor the places of use meet current annual water demands. Likewise, current water right claims do not meet the hydrologic needs of the refuge.

All Toppenish Creek water that supplies water to wetland units north of Toppenish Creek is pumped from the creek. Historically, the main point of diversion in Toppenish Creek for refuge wetlands was the Kinter-Gasseling structure, which was located off-refuge. Water was diverted into the Gamble Ditch, which delivered water to all wetland units that lie north of the creek through a series

of water control structures. This method of water delivery has been replaced by a pump station. The pump station inhibits Mid-Columbia River Steelhead from entering the wetland units and allows more flexibility in timing of withdrawals and extends the water supply into spring. Unfortunately, it is also highly labor intensive due to a daily requirement to manually clean the screens. It also has an annual energy cost. Current plans include upgrading the current system to include a self-cleaning mechanism. An additional opportunity exists to install a belt-driven, self-cleaning screened water control structure that would take advantage of high water flows during the late winter and spring months.

Snake Creek, which is a lateral branch of Toppenish Creek, provides water to wetlands south of Toppenish Creek on the main Headquarters Unit. Historically, water flows in Snake Creek were less dependable than Toppenish Creek and were dependent upon diversions by upstream ranchers. A recent wetland rehabilitation project completed upstream of the refuge has resulted in more perennial flows and consequently provided more available water to supply the wetland units.

Issue 3: Wetland Management

What percentage of TNWR should be maintained as intensively managed habitats that primarily benefit migrating waterfowl? How can the refuge best manage the wetlands to provide the greatest benefits to waterfowl and steelhead?

Refuge wetlands include both natural riparian floodplain areas and intensively managed wetlands. Water and vegetation management mimics natural floodplain processes and regulates succession of wetland plants. Of the 13 refuge units, the most intensive habitat management occurs on the Headquarters Unit. A series of managed wetlands with water control structures and other infrastructure (e.g., low-level earthen dikes, rocked spillways) allow quality wetland habitat to be consistently provided for wintering and migrating waterfowl and other wetland wildlife. Wetland infrastructure was designed to withstand winter/spring flood events without structural damage.

After the spring floodwaters begin to recede, water is maintained by means of water control structures at the outlets of the wetland impoundments. During the late spring, the impoundments are gradually dewatered to provide a diversity of wetland conditions, which produce an array of wetland plant and invertebrate organism responses. Staggered drawdowns provide foraging habitat for migrating shorebirds.

Over the summer and into early fall, most of the wetlands are dry. As soon as flows in Toppenish Creek reach a level that provides adequate instream flows, water is diverted into the wetlands from WIP water and Toppenish and Snake Creeks. Instream flows within Toppenish Creek are maintained at a minimum of 30 cfs for salmonids. As flows increase over the fall and winter, the system is operated on a more open basis, which allows free ingress and egress of native fish, albeit through a series of wetland units. After flows peak in the spring, water is again retained in the managed wetlands and the annual cycle is repeated.

The ability to manage flows through extensive wetlands creates one of the most productive and important components of the system. However, the unscreened diversion of water from Toppenish and Snake creeks can entrain juvenile steelhead (*Oncorhynchus mykiss*) into the water management system and wetlands, potentially delaying or killing migrating juvenile fish.

Flood water, diversions from Toppenish Creek and WIP water are used to create a mosaic of refuge wetlands that are interspersed with Snake and Toppenish Creeks and surrounding riparian and upland habitats. Beginning in 1995, major wetland restoration and enhancement projects were undertaken to create and enhance habitat diversity that reflects the original diversity associated with the pre-development hydrological regime of the floodplain. Where possible, wetlands incorporated braided sinuous channels for water delivery and drawdown. Dikes were designed with a low profile, gentle slopes and vegetative cover to allow for overtopping by periodic flood events; rip-rap and other dike armament were avoided. Subsequent wetland projects included creation of swales within wetland units to ease fish passage as wetlands are drawn down. Additional “fish friendly” projects included the installation of a pump station with fish screen to provide screened water to the refuge’s wetland units.

Issue 4: Waterfowl Management

Where should waterfowl management tools and techniques, including provision of cropping areas and sanctuary areas, be utilized? What role should TNWR play in providing wintering waterfowl habitat and hunting areas within the Mid-Columbia Basin? Should the refuge provide crops for migratory waterfowl?

Between World War II and the early 1970's, the Yakima Valley was regionally renowned for winter mallard populations because early agriculture was primarily cereal grains and crops, such as alfalfa and potatoes, all of which provided resources for increasingly large waterfowl populations. These populations peaked in the 1960's and have exhibited a significant decline since, probably due to a combination of factors including a change toward agricultural crops that are less attractive to waterfowl (hops, asparagus, grapes, etc.) and the availability of alternative areas for wintering waterfowl.

TNWR was established in 1964 to provide an important link in the chain of feeding and resting areas for waterfowl and other migratory birds using the Pacific Flyway. While waterfowl numbers have declined since the peaks of the 1960's, refuge wetlands are still a regionally important migration and wintering area used by thousands of birds annually. Key to this use is providing and maintaining quality habitat, which is relatively scarce in an area dominated by grazing and agriculture.

Wetland enhancement and improvement projects were completed between 1995-1998 to restore wetland habitat conditions and eliminate monotypic stands of invasive reed canarygrass which had degraded wetlands and diminished wildlife habitat quality. Improvements added water management capabilities which provide for a diversity of seasonal water regimes, resulting in increased diversity

and productivity of native wetland plants. Habitat improvements boosted fall/winter use from 2,000 to 50,000 waterfowl and increased overall use by other species including waterbirds, shorebirds and other migratory birds. Increased use by federally listed or protected species, including bald eagles, peregrine falcons and trumpeter swans, has also been recorded.

Issue 5: Invasive Species²

How will TNWR control invasive species and prevent new invasives from becoming established? What are the most appropriate strategies for controlling invasive species on the refuge?

Nationwide, impacts from introduced and invasive species are considered to be the most critical issue facing wildlife refuges. Hundreds of non-native species inhabit the Pacific Northwest, and every year new potential invasive species appear. At TNWR, non-native and invasive species pose a direct and indirect threat to habitat management on the refuge. Several of these invasive plants also are state-designated noxious weeds, which necessitates their control or eradication. Invasive species found on the refuge include reed canarygrass, perennial pepperweed, Canada thistle, Russian knapweed and Scotch thistle. The refuge employs an integrated pest management approach, using mechanical methods where possible, as well as the application of herbicides.

Current levels of surveillance may be inadequate to detect newly arrived species before they become firmly established. The impacts of nonnative species are often not well understood, and appropriate and cost effective control is often by trial and error. Current management actions to combat invasive species focus largely on containment and suppression, with less effort on prevention, education, research and monitoring.

Issue 6: Rare and Listed Species Recovery

What is TNWR's role in assisting in the Mid-Columbia River Steelhead recovery, while at the same time meeting refuge purposes to provide migration and wintering habitat for waterfowl? What actions can be taken to protect and restore habitat values for other declining species?

In early 1999, the National Oceanic and Atmospheric Administration-Fisheries (NOAA-Fisheries) listed the Mid-Columbia Steelhead Evolutionarily Significant Unit (ESU) as "threatened" pursuant to the Endangered Species Act of 1973 (ESA). Populations of the ESU occur in the Yakima Basin and, subsequently, Toppenish Creek. Historically, the Columbia Basin produced significant runs of anadromous fish, including coho, sockeye, steelhead and spring, summer and fall chinook. Currently, summer chinook and sockeye are extinct in the Columbia Basin, and greatly reduced runs

² Invasive species are generally defined as non-native species that harm or have the potential to harm the environment, economy and/or human health when present in an area. Invasive species often pose a serious threat to native species through competition and predation.

of spring and fall chinook, coho and steelhead return each year. Prior to Euro-American development, they were broadly distributed throughout the Basin.

Adult fish generally migrate upstream from November through February and spawn from March through May in the upper basin. Steelhead fry generally emerge from the gravel during May through August, with fry emergence completed by the end of June in the lower Basin. A substantial number of juvenile steelhead begin moving downstream during the winter. Juvenile steelhead migrate to the ocean as smolts during the spring, from early April through mid-June, with the peak of the out-migration occurring in early May.

An important refuge issue is the passage of adult and juvenile steelhead at sites on Toppenish and Snake Creeks, which were modified as part of the refuge's water management system. These sites include gravity and pump diversions where juveniles may be entrained into the refuge's water supply and obstructions or stream modifications that may impede adult steelhead migration. The diversions that are presently unscreened and pose a risk to juvenile steelhead moving downstream are Lateral Creek, Unit 3A and Unit 2A. The Toppenish Creek Pump intake is equipped with a fish screen, but this screen does not meet current fish passage standards.

Juveniles within TNWR wetlands during March-June have been provided access back into Toppenish Creek in one of two ways: 1) wetlands are dewatered between April and June 15 of each year, and the juveniles leave with the water; and 2) water is allowed to spill over control boards and back into Toppenish Creek during normal operation, providing flows to move the juveniles along. There are problems, though: 1) not all swales are functionally complete along the entire length of each wetland, which could strand fish during draw down; 2) low water supplies (pumping abilities, low flows) can limit perceptible flow through the wetland and passing over control boards at all times; and 3) a sequence of multiple wetland units, including multiple water control structures, needs to be navigated before re-entering Toppenish Creek.

Modifications to the management of wetlands can be made to assist with recovery efforts of anadromous steelhead in Toppenish Creek while maintaining the ability of the refuge to provide habitats for migratory birds, including endangered bird species. Two principles have been identified to facilitate adult fish passage: 1) no physical obstruction or barriers within Toppenish Creek's main channel; and 2) no false attraction flows from wetland outlets/culverts up side channels.

For juvenile fish, the major principles governing management actions include: 1) only using screened water for any wetlands without a pass-through system, including wetland units that contain a series of water control structures before exiting back into Toppenish Creek; 2) every wetland receiving unscreened water will operate as a pass-through system consisting of a functional swale with perceptible flow through the wetland and passing over control boards, returning to Toppenish Creek; 3) all wetlands drawn down in the spring will be done so in a manner to promote safe and effective return of fish to Toppenish Creek; and 4) the refuge will monitor efficacy of management actions in preventing fish entrainment in wetlands.

Issue 7: Impacts of Development and Climate Change

How should TNWR address the impacts of increasing development of adjacent lands on its wildlife and habitat? How will the refuge address the potential impacts of climate change?

Documented temperature increases over the past 20 years, and anticipated water shifts in rain/snow cycles due to climate change, will lead to an earlier spring drying trend in the Columbia Basin. Therefore, the need to resolve TNWR water rights and efficiently utilize and manage water flows is critical to achieving refuge purposes.

Issue 8: Contaminants and Water Quality

How should TNWR monitor for contaminants and address contaminant and water quality issues? How will the refuge improve conditions in its instream habitat for native fish?

TNWR lies within the Yakima Valley, a highly agricultural area.

Issue 9: Wildlife-dependent Uses

What types of improvements to wildlife-dependent uses can be provided to enhance public enjoyment and ensure a quality experience for refuge visitors? How will TNWR meet the increasing demand for safe, accessible, high-quality wildlife-dependent recreation opportunities in the future? How will the refuge provide visitors with safe and ADA-compatible access? How will the refuge improve the quality of the hunting program? How will TNWR address the impacts of increasing visitation on wildlife and minimize impacts to priority species?

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TNWR must manage ever-increasing visitation and demand for visitor services programs with a very small staff. This affects all visitor services programs; however, it is more problematic for certain programs (e.g. waterfowl hunting and environmental education) than others (wildlife

observation). To date, emphasis has been placed on maintaining facilities, welcoming and orienting visitors, answering information requests and dealing with law enforcement issues.

The visitor services programs are mostly self-serve through informational kiosks and a walking trail. Environmental education programs are delivered through the use of volunteers and partnerships with local groups.

Waterfowl hunting is allowed on Tuesdays, Thursdays, Saturdays and Sundays (all day—dawn to dusk) within the Pumphouse Unit in accordance with Washington State seasons and regulations. The Pumphouse Unit contains nine hunting blinds, one of which is disabled use only. Waterfowl hunting is allowed seven days a week (all day—dawn to dusk) within the Robbins Unit. The Robbins Unit contains nine blinds. No permits or fees are required (other than a valid hunting license and Duck Stamp). Since there is no permit system the number of hunters is limited by the number of parking spaces. No free-roam waterfowl hunting is allowed in the area, although pheasant hunting is allowed on a free roam basis after 12 p.m. The current “first-come, first-served” system of getting blinds, and intense competition for blinds in the best hunting areas, entices hunters to arrive early and setup prior to the official opening of the season and exacerbates conflicts between hunters. Retrieval of waterfowl in the closed area, early entry and intentional flushing of birds into the hunt area are current law enforcement issues; weekends are the most problematic, since refuge staff are not present.

Hunting is also allowed on six of the outlying units. Days vary from seven days a week to Wednesday, Saturday and Sunday hunt days. All outlying hunt areas are free roam, except the Halvorson and Webb Units where hunting must be from designated blinds.

Issue 10: Effective Law Enforcement, Outreach and Prevention of Illegal Uses

How does TNWR create a stronger law enforcement presence to better facilitate effective management, reduce law enforcement violations and reduce user group conflicts?

Law enforcement is currently covered by refuge officers stationed out of the MCRNWRC in Burbank, Washington. Because of the distance from the MCRNWRC office and overall size of the hunt program, law enforcement visits are limited to a few periodic visits throughout the year.

Issue 11: Staffing

What staffing levels are needed to maintain current management operations at TNWR? How will the refuge address the staffing limitations?

TNWR is administered by MCRNWRC, Burbank, and the Refuge Manager is headquartered at TNWR. A full-time engineering equipment operator is stationed at the refuge. Typical staffing patterns include seasonal biologists and visiting crews of maintenance and fire personnel.

Issues Outside the Scope of the CCP/EA

Refuge Expansion

Due to the status of TNWR within the Yakama Nation boundary, the CCP/EA will not identify specific actions or alternatives that would expand the refuge's acquisition boundary. The CCP may consider land exchanges; however, this would not increase the size of the refuge by more than 10%.

Conboy Lake National Wildlife Refuge Conservation Targets

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 5	BCC R1 Status	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-ECMPWC	WA NHP S Rank
Birds		x													
<i>Waterfowl</i>	x	x													
Ducks/Geese (Migrating/Wintering)	x	x												x	
Dabbling Ducks (Nesting)	x	x													
Diving Ducks (Nesting)	x	x													
Canada Geese (Resting/Wintering Habitat)	x												NE		S5
Pacific White-fronted Goose	x	x							GBBDC				I		S3 S4
Tundra Swan	x												N	x	
Wood Duck	x								GBBDC				I		S3
Green-winged Teal	x												I		S3 S4
Mallard	x												N		S5
Northern Pintail	x								GBBDC	x			D		S3 S4

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Cinnamon Teal	x												N		S5
American Wigeon	x								GBBDC				N		S4 S5
Ring-necked Duck	x								GBBDC	x			I		S3 S4
Lesser Scaup	x								GBBDC	x			D		S3 S4
Bufflehead	x												I	x	S4
Common Goldeneye	x												N		S5
Hooded Merganser	x												I		S3 S4
Common Merganser	x												I		S3 S4
<i>Raptors</i>		x													
Bald Eagle (Nesting/Roosting)			FCo	SS	x	x	x			x				x	S4
Northern Harrier							x								S3
Cooper's Hawk								IIA							S4
Northern Goshawk			FCo	SC	x					x				x	S2 S3
Golden Eagle				SC						x				x	S3

[illegible]

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 5	BCC R1 Status	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-ECMPWC	WA NHP S Rank
<i>Shorebirds</i>	x	x												x	
Killdeer											4			x	S4 S5
Greater Yellowlegs											4				S4 S5
Lesser Yellowlegs					x		x				2				S4
Spotted Sandpiper											3				S3 S4
Wilson's Phalarope							x				3				S3
Wilson's Snipe											4				S4 S5
<i>Owls</i>															
Flammulated Owl				SC		x	x			x				x	S3
Western Screech Owl								IIA							S4
<i>Songbirds</i>		x													
Vaux's Swift				SC				IIB		x				x	S3 S4
Rufous Hummingbird					x	x	x	I	X					x	S4
White-headed Woodpecker				SC		x	x			x				x	S2 S3

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 5	BCC R1 Status	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-ECMPWC	WA NHP S Rank
Pileated Woodpecker				SC						x				x	S4
Olive-sided Flycatcher			FCo		x	x	x	I						x	S3
Willow Flycatcher				SC	x	x		I						x	S4
Dusky Flycatcher								IIA							S4 S5
Pacific-slope Flycatcher								IIA							S4 S5
Cassin's Vireo								IIA							S4
Steller's Jay								IIA							S5
Pygmy Nuthatch										x					S3 S4
Brown Creeper														x	S4 S5
Marsh Wren								IIC							S4 S5
Golden-crowned Kinglet								IIA							S4 S5
Western Bluebird				SM						x					S3
Black-throated Gray Warbler								IIA							S5

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 5	BCC R1 Status	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-ECMPWC	WA NHP S Rank
Townsend's Warbler								IIA							S4 S5
MacGillivray's Warbler								IIA							S4 S5
Yellow Warbler								X1							S4
Black-headed Grosbeak								IIB							S5
Bullock's Oriole								IIA							S4
Lazuli Bunting								IIA							S5
Spotted Towhee								IIA							S5
Cassin's Finch						x									S4
Purple Finch					x			IIA							S4
Mammals		x													
Townsend's Big-eared Bat			FCo	SC						x				x	S2 S3
Pallid Townsend's Big-eared Bat			FCo	SC						x				x	S2 S3
Long-eared Myotis			FCo	SM											S4
Western Gray Squirrel			FCo	ST						x				x	S2

[illegible]

[illegible]

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FE = Federal Endangered

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FC = Federal Candidate

FCo = Federal Species of Concern

State T&E Species

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Tier II = High Regional Priority – Species that are of moderate continental priority (not on continental Watch List), but are important enough to consider for conservation within a region because of various combinations.

Tier IIA = High Regional Concern – Species that are experiencing declines in the core of their range and that require conservation action to reverse or stabilize trends.

Tier IIB = High Regional Responsibility – Species for which this region shares in the responsibility for long term conservation, even if they are not currently declining or threatened. These are species of moderate overall priority with a disproportionately high percentage of their total population in the region.

Tier IIC = High Regional Threats – species of moderate overall priority that are uncommon in a region and whose remaining populations are threatened, usually because of extreme threats to sensitive habitats.

BMC – Birds of Management Concern (U.S. Fish and Wildlife Service, Division of Migratory Birds)

GBBDC = Game Birds Below Desired Condition

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Shorebird Plan (Drut, M.S., and Buchanan, J. B. 2000. Northern Pacific Coast Regional Shorebird Management Plan.)

1 = No Risk

2 = Low Concern

3 = Moderate Concern

4 = High Concern

5 = Highly Imperiled

Waterbird Plan

1 = Lowest Concern

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Waterfowl Plan (North American Waterfowl Management Plan, 2004 Strategic Guidance. Breeding population trends in North America.)

N = No Trend

I = Increasing

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TNC-ECMPWC (The Nature Conservancy and Washington Department of Fish and Wildlife. 2007.)

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WA NHP S Rank – Washington Natural Heritage Program, State Rank

S1 = Critically Imperiled

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S4 = Apparently Secure

S5 = Demonstrably Secure in State

Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
White-headed woodpecker	Ponderosa pine	Large patches of old forest with large snags. Minimum patch size in 350-700 acres. Mean canopy closure 10-40% with 10 trees/acre > 21 inches DBH with at least 2 trees being >31 inches DBH and with 1.4 snags/acre > 8 in DBH. (PIF 2000)	Year round	Lewis' woodpecker, white-breasted nuthatch, pygmy nuthatch, Hammond's flycatcher, hairy woodpecker, brown creeper
Chipping sparrow	Ponderosa pine	Open understory with regenerating pines: Interspersion of herbaceous ground cover with shrub and regenerating pine patches. Canopy cover 10-30%, 20-60% cover in the shrub layer and >20% of the shrub layer in regenerating conifer saplings, especially pines. (PIF 2000)	Breeding	Dark-eyed junco, Townsend's solitaire, dusky flycatcher
Ames milk-vetch	Ponderosa pine	Flat terrain, open Ponderosa pine forests with bitterbrush. (WDNR, Natural Heritage Program)	All	Chipping sparrow, dark-eyed junco. Townsend's solitaire, dusky flycatcher
Pulsifer's monkey flower	Ponderosa pine	Seasonally moist openings in Ponderosa pine. (WDNR, Natural Heritage Program)	All	Chipping sparrow, dark-eyed junco. Townsend's solitaire, dusky flycatcher
Black-backed woodpecker	Lodgepole/ponderosa pine	Old growth lodgepole pine: large tracts of lodgepole pine forest dominated by and managed for late successional conditions. (PIF 2000)	Year round	Mountain chickadee, yellow-rumped warbler, Cassin's finch
Brown creeper	Mixed conifer	Large trees: >75 acres blocks of late successional habitat with > 4 trees/acre > 18 inches DBH with at least 2 trees >24 inches DBH. (PIF 2000)	Breeding	Townsend's warbler, red-breasted nuthatch, pine siskin
Hermit thrush	Mixed conifer	Multi-layered dense canopy/vertical cover: Patches of forest with multi-layered structure and a dense understory shrub layer. (PIF 2000)	Breeding	Varied thrush, chestnut-backed chickadee, Townsend's warbler, winter wren

Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
Olive-sided flycatcher	Mixed conifer	Edges and openings created by wildfire: retain patches of live and dead trees/snags to provide potential nest trees (live) within the context of potential foraging and singing perches. (PIF 2000)	Breeding, Foraging	Western tanager, Cassin's finch, Western wood-pewee, mountain bluebird
Nashville warbler	Oregon white oak woodland	Early successional – dense understory: Oak-pine woodland with > 40% native shrub cover interspersed with grassy openings and with or without scattered trees that comprise < 30% canopy cover. (PIF 2000)	Breeding	Dusky flycatcher, American robin, White-breasted nuthatch
Western gray squirrel	Oregon white oak woodland	Mixed oak-pine woodlands. Stands used most often in Klickitat County study by western gray squirrels were dominated by a multi-layered canopy of ponderosa pine that had an upper canopy layer taller than 14 m (46 ft) and a sparse understory of oak with little or no shrub cover or other ground vegetation. Pine was the most frequently used tree for nesting, foraging, and cover. Squirrels on the Klickitat study area selected for moderate conifer (25–75% canopy cover) at the home range scale and for moderate and dense (>75% canopy cover) conifer (>75% conifer) cover-types at the 80% core area scale. Using radio telemetry fixes, there was selection only for moderate conifer cover types. These cover types were favored over sparse conifer (<25% canopy cover), pure oak (>75% oak) and mixed oak-conifer cover-types at all levels of canopy cover (Linders 2000, referenced in Washington state recovery plan)	Year round	
Red-naped sapsucker	Quaking aspen	Large aspen trees and snags with regeneration: Mean canopy cover 40-80%, either clumped with patches and openings or relatively evenly	Year round	House wren, western screech owl, tree swallow, northern flicker, ruffed grouse

Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
		distributed, with >1.5 trees and > 1.5 snags/acre > 39 feet in height and 10 inched DBH, with >10% cover of saplings in understory. (PIF 2000)		
Willow flycatcher	Riparian	Dense patches of native shrubs > 10 m ² interspersed with openings of herbaceous vegetation. Patch size 5-20 acres with shrub layer across 40-80%; shrub layer height > 3ft; tree cover < 30%. (PIF 2000)	Breeding	Yellow warbler, song sparrow, spotted towhee
Oregon spotted frog	Emergent wetlands	Water depths range from approximately 2 to 12 inches in depth, emergent vegetation can be present, though generally not dense. (Washington state recovery plan)	Breeding	Sandhill crane, cinnamon teal, Canada geese shorebirds
Oregon spotted frog	Springs	Permanent moving water that is groundwater driven	Breeding, overwintering	Invertebrates, wetland plants
Sandhill crane	Emergent wetlands	Generally shallow water, averaging 8 -20 inches in depth in parts of the western US, however dry sites are used also. Vegetation at nesting sites consists of a variety of herbaceous emergents and occasional woody shrubs. (Washington state recovery plan).	Nesting	Oregon spotted frog, cinnamon teal, Canada geese, shorebirds
Sandhill crane	Wet Meadow habitat	Maintain a mosaic of wetland, wet meadow, and upland meadow habitats – tracts of suitable habitat > 300 acres. (Washington state recovery plan)	Foraging, brood rearing	Wilson’s snipe, Lincoln sparrow, song sparrow, common yellowthroat
Sandhill crane	Upland meadow	Maintain a mosaic of wetland, wet meadow, and upland meadow habitats – tracts of suitable habitat > 300 acres. (Washington state recovery plan)	Foraging, brood rearing	Grasshopper sparrow, Mardon skipper, western yellow-bellied racer

Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
Dwarf rush	Emergent wetlands	Temporary and seasonally flooded shallow marshes that dry out. (WDNR, Natural Heritage Program)	All	Sandhill crane, Wilson's snipe, Lincoln sparrow, song sparrow, common yellowthroat
Long-bearded sego lily	Emergent wetland/ Wet meadow	Grass and forb dominated wet meadow with little to no shrub or tree cover. (WDNR, Natural Heritage Program)	All	Sandhill crane, Wilson's snipe, Lincoln sparrow, song sparrow, common yellowthroat
Rosy owl clover	Emergent wetland/ Wet meadow	Grass and forb dominated wet meadow with little to no shrub or tree cover. (WDNR, Natural Heritage Program)	All	Sandhill crane, Wilson's snipe, Lincoln sparrow, song sparrow, common yellowthroat
Oregon coyote-thistle	Emergent wetland/ Wet meadow	Grass and forb dominated wet meadow with little to no shrub or tree cover. (WDNR, Natural Heritage Program)	All	Sandhill crane, Wilson's snipe, Lincoln sparrow, song sparrow, common yellowthroat
Ring-necked duck	Permanent wetlands, creeks and canals	Water depths 3-10 feet, mixed open water and submergent vegetation, water present in summer months, winter depths variable with precipitation	Nesting, brood rearing	Overwintering Oregon spotted frogs

Toppenish National Wildlife Refuge Conservation Targets

[illegible]

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 9	BCC Region 1	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-Columbia	WA NHP S Rank
Northern Pintail	x								GBBDC	x			D		S3 S4
Cinnamon Teal	x												N		S5
American Wigeon	x								GBBDC				N		S4 S5
Northern Shoveler													I		S4 S5
Ring-necked Duck	x								GBBDC	x			I		S3 S4
Lesser Scaup	x								GBBDC	x			D		S3 S4
Bufflehead	x												I		S4
Common Goldeneye	x												N		S5
Hooded Merganser	x												I		S3 S4
Common Merganser	x												I		S3 S4
<i>Raptors</i>		x													
Bald Eagle			FCo	SS	x	x	x			x				x	S4
Northern Harrier								IIA							S3

Species/ Species Groups/ Habitats	Purpose Species	BIDEH	Federal T&E	State T&E	BCC # 9	BCC Region 1	BCC National	PIF (Tier)	BMC Region 1 Status	State Action Plan	Shorebird Plan	Waterbird Plan	Waterfowl Plan	TNC-Columbia	WA NHP S Rank
Golden Eagle				SC				IIA		x					S3
Peregrine Falcon			FCo	SS	x	x	x	IIC		x					S2 S3
<i>Gamebirds</i>															
California Quail								IIA							
<i>Marshbirds/Waterbirds</i>	x	x													
Pied-billed Grebe												2			S4 S5
American White Pelican				SE								3		x	S1
Great Blue Heron				SM						x		2			S4 S5
Black-crowned Night Heron				SM								2			S3
American Bittern												2			S3 S4
Virginia Rail												2			S3 S4
Sora												2			S4
American Coot												2			S4
Sandhill Crane				SE						x		3			S1 S3

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<i>Shorebirds</i>	x	x													
Killdeer								IIA			3				S4 S5
Black-necked Stilt				SM							5				S3
American Avocet											5				S4
Greater Yellowlegs											3				S4 S5
Lesser Yellowlegs							x				2				S4
Spotted Sandpiper											3				S3 S4
Long-billed Curlew				SM							5			x	S2 S3
Western Sandpiper											4				S4 S5
Dunlin											2				S4 S5
Long-billed Dowitcher											5				S4 S5
Wilson's Phalarope											5				S3

[illegible]

[illegible]

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Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
Mallard	Emergent wetlands	Shallow wetlands up to 30 cm in depth with a variety of emergents and moist soil plants for foraging including rushes, sedges, wild millet, burreed, and smartweeds. (Laubhan et al. in Braun 2005; Birds of North America)	Migration, Wintering	Northern pintail, gadwall, Canada goose, some shorebirds
American bittern	Emergent wetlands	Shallow wetlands up to about 40 cm in depth with areas of tall, dense emergent vegetation for nesting. (Laubhan et al. in Braun 2005; Birds of North America)	Nesting Foraging	Virginia rail, mallard, Canada geese,
Yellow warbler	Riparian	Subcanopy foliage in riparian woodland. >70% cover in the shrub and subcanopy layer with subcanopy layer contributing >40% of the total with >70% of the cover comprised of native species, e.g., willow, red-osier dogwood, and hawthorne. (PIF 2000)	Breeding	Black-headed grosbeak, willow flycatcher, Mid-Columbia steelhead
Willow flycatcher	Riparian	Dense patches of native shrubs > 10 m ² interspersed with openings of herbaceous vegetation. Patch size 5-20 acres with shrub layer across 40-80%; shrub layer height > 3ft; tree cover < 30%. (PIF 2000)	Breeding	yellow warbler, song sparrow, yellow-breasted chat, Mid-Columbia steelhead
Bullock's oriole	Riparian	Large canopy trees in riparian woodlands with mean canopy tree height >35 ft and canopy closure 30-60%. (PIF 2000)	Breeding	Yellow warbler, black-headed grosbeak, western wood-pewee, Mid-Columbia steelhead

Focal Species	Habitat Type	Habitat Structure	Life History Requirement	Other Benefitting Species
Mid-Columbia steelhead	Riverine	Maintain adequate instream flows and water quality in Toppenish and Snake Creeks.	Migration, rearing	Brook lamprey

Conboy Lake National Wildlife Refuge Biological Integrity, Diversity & Environmental Health

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
Ponderosa Pine	<p>Stands comprised of large patches of older forest with large snags.</p> <p>Common understory shrubs and herbs include snowberry (<i>Symphocarpus spp.</i>), wild rose (<i>rosa spp.</i>), bitterbrush (<i>Purshia tridentata</i>), bracken fern (<i>Pteridium aquilinum</i>), various native bunchgrasses and other grass species.</p> <p>Typically associated with adjacent stands of lodgepole pine and aspen.</p> <p>Stands dominated by large, well-spaced ponderosa pine trees, with some areas of small trees in even-age groups one to several acres in size.</p> <p>Understory trees and secondary forest canopies generally absent.</p> <p>Small, scattered areas consist of more dense forest, with greater development of understory trees, including grand fir and Douglas-fir, and snags.</p> <p>The forest structure is not</p>	<p>Frequent, low intensity ground fires, possibly every 5 to 45 years.</p> <p>Insects, including pine butterfly (<i>Noeophasia menapia</i>), western pine beetle, and mountain pine beetle.</p> <p>Windfall.</p>	<p>Logging</p> <p>Fire exclusion</p> <p>Development</p> <p>Stand replacement fires</p> <p>Agriculture</p>

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
	<p>uniform. It is a mosaic of different ages and sizes, although generally very open in nature.</p> <p>Over time, many of the large trees would be very old, on the order of 300 years.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - White-headed woodpecker - Chipping sparrow - <i>Astragalus pulisiferae</i> - Flammulated owl - Lewis' woodpecker - <i>Mimulus pulisiferae</i> 		
Lodgepole/Ponderosa Pine	<p>Stands are even-aged, but a variety of age and size classes would be represented across the landscape.</p> <p>Understories have varying fuel levels, including large down logs.</p> <p>Snags are numerous.</p> <p>Stands would be healthy, with endemic levels of mountain pine beetle and other insect use.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Black-backed woodpecker 	<p>Windthrow.</p> <p>Insects, such as mountain pine beetle.</p> <p>Disease.</p> <p>Stand replacement fires.</p>	<p>Logging</p> <p>Flooding</p> <p>Agriculture</p> <p>Draining</p> <p>Development</p>
Mixed Conifer Stands	<p>Stands are late-successional mixed conifer forests comprised of Douglas-fir, ponderosa pine, and grand fir as the</p>	<p>Infrequent fire.</p> <p>Disease.</p> <p>Insects.</p>	<p>Logging</p> <p>Agriculture</p> <p>Development</p>

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
	<p>primary tree species with Oregon white oak present in minor amounts.</p> <p>Forests dominated by large, well-spaced Douglas-fir and ponderosa pine trees.</p> <p>Scattered areas consist of a more dense forest with a greater development of understory trees, including grand fir, Douglas-fir, and snags.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Black-backed woodpecker - Townsend's warbler - Varied thrush - Hermit thrush - Olive-sided flycatcher 		
Oregon White Oak	<p>Interspersed with conifers or in small, pure groups.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Western gray squirrel 	<p>Shallow, droughty soils.</p> <p>Periodic fire.</p>	<p>Fire exclusion</p> <p>Development</p>
Quaking Aspen	<p>Aspen are found on the valley floor, adjacent to wetlands.</p> <p>Aspen grows in clones, with many stems that originate from the same genotype. The species sprouts prolifically from the root suckers produced on the shallow lateral roots.</p>	<p>Seasonal high soil moisture/flooding.</p> <p>Fire.</p> <p>Insects.</p> <p>Disease.</p>	<p>Draining</p> <p>Development</p> <p>Grazing</p>
Emergent Wetland	<p>Seasonal; semi-permanent; permanent.</p>	<p>Periodic flooding; seasonal fluctuations/drying.</p>	<p>Agriculture</p> <p>Grazing</p>

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
	<p>Sedges, rushes, spike rushes, cattails, and forbs.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Waterfowl - Canada goose - Sandhill crane - Oregon spotted frog - Shorebirds - Oregon coyote-thistle - Rosy owl-clover - Kellog's rush - Dwarf rush - Long-bearded sego lilly 	<p>Periodic fire.</p> <p>Intermittent grazing.</p> <p>Beaver dams.</p>	<p>Invasive species, especially reed canarygrass</p> <p>Draining</p> <p>Dikes</p> <p>Development</p> <p>Fire exclusion</p> <p>Woody plant encroachment</p>
Upland (Mesic) Meadow	<p>Transition zone between wet meadow and forested habitats.</p> <p>A mix of grasses and forbs.</p>	<p>Periodic fire.</p> <p>Well-drained soils.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Invasive species, especially cheatgrass, meadow knapweed</p> <p>Draining</p> <p>Dikes</p> <p>Development</p> <p>Fire exclusion</p> <p>Woody plant encroachment</p>
Riparian	<p>Occurring along irrigation and drainage ditches.</p> <p>Dominated by aspens, alders and willows.</p>	<p>Space and moisture availability along creeks and streams.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Draining</p> <p>Dikes</p> <p>Development</p>

Toppenish National Wildlife Refuge

Biological Integrity, Diversity & Environmental Health

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
Emergent Wetland	<p>Seasonal, semi-permanent, and permanent.</p> <p>Sedges, rushes, spike rushes, cattails and forbs.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Waterfowl - Canada goose - Shorebirds - Steelhead 	<p>Periodic flooding; seasonal fluctuations/drying.</p> <p>Periodic fire.</p> <p>Intermittent grazing.</p> <p>Beaver dams.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Invasive species, especially reed canarygrass and cocklebur</p> <p>Draining</p> <p>Dikes</p> <p>Development</p> <p>Fire exclusion</p> <p>Woody plant encroachment</p> <p>Dikes</p>
Upland (Mesic) Meadow	<p>Transition zone between wetland and upland habitats.</p> <p>A mix of grasses and forbs, including wheatgrass, fescues, and Great Basin wildrye.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Waterfowl - Grasshopper sparrow - Savannah sparrow - Short-eared owl 	<p>Periodic fire.</p> <p>Periodic flooding; seasonal fluctuations/drying.</p> <p>Intermittent grazing.</p> <p>Beaver dams.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Invasive species, especially cheatgrass, pepperweed, knapweed, Canadian thistle and Russian olive</p> <p>Draining</p> <p>Dikes</p> <p>Development</p> <p>Fire exclusion</p>

Habitats (Plant Communities) Represent Existing BIDEH	Population/Habitat Attributes (Age Class, Structure, Serial Stage, Species Composition)	Natural Processes Responsible For Conditions	Limiting Factors
			Woody plant encroachment
Riparian	<p>Occurring adjacent to moving watercourses.</p> <p>Dominated by willows, dogwood and cottonwoods.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Willow flycatcher - Steelhead 	<p>Space and moisture availability along creeks and streams.</p> <p>Periodic flooding; seasonal fluctuations/drying.</p> <p>Beaver dams.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Draining</p> <p>Invasive species, especially Canadian thistle and Russian olive</p> <p>Dikes</p> <p>Development</p>
Uplands	<p>Including shrub-step, salt grass flats.</p> <p>Characterized by, sagebrush, bitterbrush, greasewood, native bunchgrasses and forbs.</p> <p><i>Potential Conservation</i></p> <ul style="list-style-type: none"> - Loggerhead shrike - Long-billed curlew - Sage thrasher - Brewer's sparrow - Sage sparrow - Burrowing owl - California quail 	<p>Well-drained soils.</p> <p>Alkaline soils.</p> <p>Periodic, low-intensity fire.</p> <p>Intermittent grazing.</p>	<p>Agriculture</p> <p>Grazing</p> <p>Stand replacement fire</p> <p>Development</p> <p>Invasive species, especially cheatgrass and Russian knapweed</p>

Conboy Lake National Wildlife Refuge Refuge Purpose Species & Habitats

Species, Species Group or Habitat	Supporting habitat Type(s)	Life History Requirement(s)	Documentation
Waterfowl nesting	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, brood rearing habitats, hiding cover	MBCC
Migrating ducks and geese	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking	MBCC
Mallard	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC
Northern pintail	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC
Cinnamon teal	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC

Species, Species Group or Habitat	Supporting habitat Type(s)	Life History Requirement(s)	Documentation
Wood ducks	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands, including forested zones	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC
Canada geese	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC
Greater Sandhill crane	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands	Nesting cover, feeding areas, available prey base, colt rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, staging, flocking, breeding	MBCC
Resident wildlife	Emergent marsh, permanent and seasonal wetlands, agricultural pastures, wet meadow, grasslands and associated upland habitat and forested areas	Cover, feeding areas, rearing habitats, hiding cover, resting areas, loafing areas, hiding cover, security, feeding areas, breeding	MBCC

Toppenish National Wildlife Refuge Refuge Purpose Species & Habitats

Species, Species Group, or Habitat	Supporting Habitat Type(s)	Life History Requirement(s)	Documentation
Migratory birds	Emergent marsh, permanent and seasonal wetlands, upland habitats, grasslands, agricultural pasture, woodlands, riparian and river habitat	Nesting cover, feeding areas, brood rearing habitats, hiding cover, resting areas, loafing areas, security, feeding areas, staging, flocking, breeding	MBCC
Wintering ducks and geese	Emergent marsh, permanent and seasonal wetlands, upland habitats, grasslands, agricultural pasture, woodlands, riparian and river habitat	Feeding areas, hiding cover, resting areas, loafing areas, security, feeding areas, staging, flocking, thermal cover	MBCC
All wildlife species, other than waterfowl, resident and migratory	Emergent marsh, permanent and seasonal wetlands, upland habitats, grasslands, agricultural pasture, woodlands, riparian and river habitat	Cover, feeding areas, rearing habitats, hiding cover, resting areas, loafing areas, security, feeding areas, breeding, thermal cover	MBCC

Conboy Lake National Wildlife Refuge Habitat and Wildlife Management Goals and Objectives

Issues Considered But Dismissed (Beyond the Scope of the CCP):

- Full-scale restoration of creeks to historic channels/oxbows.
 - » We don't own property on the west side and there are no known willing sellers.
- Controlling coyotes to benefit nesting waterbirds (including Sandhill cranes).
 - » We should assess the impacts of coyotes to determine the extent and severity of predation on water birds.
 - » Currently there are high recruitment rates for Sandhill cranes on the refuge.

Features Common to All Alternatives:

- Filling in shallow feeder ditches which improves water management capacity and restores/enhances hydrology.
- Maintaining secondary arterials which provides flood relief and irrigation water for private landowners (irrigation tail-water).
- IPM approach.
- Land acquisition within the approved boundary.
- Dike (e.g., mowing) and WCS maintenance.
- Firebreak maintenance.
- Maintaining boundary fencing.
- Road maintenance.
- Adaptive management.
- Controlling bullfrogs and bullheads.
 - » Habitat management (drawdowns) and other allowed removals methods, such as minnow traps.
 - » Discuss the impacts (predation) on Oregon spotted frogs and other natives (Joe will provide information).
 - » Relate to specific habitats – emergent marsh, wet prairie, water delivery system.
 - » Pest Control Policy – 7 RM 14.
- Control problem beavers.
 - » Surplus Animal Control Operations – 50 CFR 31.14.
 - » Refuge staff and authorized agents (USDA Wildlife Services).
 - » Removal techniques include trapping and shooting.
 - » Analyze the effects of incidental take on species like otters.

Goal 1. Protect and maintain a diverse assemblage of aquatic habitats characteristic of the Glenwood Valley/Conboy Lake Region.

Objective 1.1 – Wet Prairie (Wet Meadow)

Protect and maintain X-Y acres of wet meadows on Conboy Lake NWR for the benefit of migrating waterfowl (e.g., mallards, northern pintails), breeding/migrating Sandhill cranes, raptors (e.g., northern harriers, short-eared owls), native amphibians (e.g., Oregon spotted frogs), and other wetland-dependent species. Wet prairie would be characterized by the following attributes:

- Water depths range from saturated soils to three feet.
- October 1 - late June/July inundation.
- Short (<2 feet) sedges (e.g., *Carex* species), rushes (e.g., *Juncus* species), and spikerushes (e.g., *Eleocharis* species), and other native/desirable emergents.
- Presence of native forbs (e.g., camas, common monkey flower, potentilla).
- Presence of rare plant species (e.g., rosy owl clover, Oregon coyote thistle, long-bearded sago lily, dwarf rushes).
- Limited presence of woody species.
- <X% cover of reed canarygrass.
- No invasive/undesirable plants present.

Strategies

- Water level management – flooding/drawdowns.
- Maintain water control structures and other infrastructure.
- Haying – August 1 - August 30.
- Grazing – October 1 - November 30.
- Discing.
- Mowing.
- Prescribed fire – fall.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.

Rationale

- Late inundation for breeding frogs and cranes.
- BIDEH.
- Provides habitat for migrating cranes.
- Haying dates (August 1 - August 30) to minimize impacts to nesting cranes and owl clover seeding.
- Fall burning mimics the natural regime with no impacts to breeding birds.
- Mowing to open frog habitat and removing lodgepole pine seedlings.

Objective 1.2 – Emergent Marsh

Protect and maintain **X-Y** acres of emergent marsh on Conboy Lake NWR for the benefit of migratory/breeding waterfowl, migrating/breeding cranes, water birds (e.g., Virginia rails, soras, black terns), overwintering and breeding native amphibians (e.g., Oregon spotted frogs), and a diverse assemblage of wetland-dependent species. Emergent marshes would be characterized by the following attributes:

- Water depths ranging from two to four feet.
- October 1 - late July/September inundation.
- 50/50 ratio of open water and emergent cover as a mosaic.
- Native emergent cover, including bulrushes (*Scirpus* species) and cattails (*Typha* species).
- Open water with wapato and native/desirable submergents (e.g., pondweeds).
- Limited presence of woody species.
- No invasive plants present (e.g., purple loosestrife).

Strategies

- Water level management – flooding/drawdowns.
- Maintain water control structures and other infrastructure.
- Prescribed fire – fall.
- Livestock grazing to open areas with extensive emergents.
- Mowing to reduce emergent cover.
- Discing to reduce emergent cover.
- Rotational regime to provide range of acres every year
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Bullfrog removal through water level manipulations (e.g., drawdowns) and other means.

Rationale

- Overwintering habitat for Oregon spotted frogs.
- Some areas with year-round water available.
- Crane nesting at Willard and Oxbow.
- Crane roosting.
- Breeding and brooding waterfowl.

Objective 1.3 – Main Water Delivery System (Creeks and Ditches)

Protect and maintain **X-Y** miles of creeks and ditches on Conboy Lake NWR for the benefit of Oregon spotted frogs, native fishes (e.g., speckled dace), migratory birds, and a diverse assemblage

of other species (e.g., invertebrates). These creeks and ditches are characterized by the following attributes:

- Permanent, moving water.
- Variable elevations and flows.
- The presence of submergents (e.g., pondweeds).
- The presence of limited/restricted stands of tall emergents (e.g., *Typha* species).

Strategies

- Maintain water control structures.
- Mechanical techniques to maintain riparian in suitable and strategic locations.
- Use mechanical techniques to maintain water flows.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Dredging where necessary.

Rationale

- Highly important summer water habitat for frogs.
- Native invertebrates.
- Chapman, Bird, Old Bird, Outlet, Holmes and Frazer Creeks and Cold Springs Ditch.
- Water delivery and drainage system for aquatic habitats managed on the refuge.
- Riparian habitat associated with the creeks.

Objective 1.4 – Springs

Enhance, protect, and maintain springs (e.g., Willard, Headquarters) on Conboy Lake NWR for the benefit of a diverse assemblage of native species. Springs are characterized by the following attributes:

- Permanent, moving water.
- Groundwater driven/association.
- Water temperatures ranging between X-Y degrees.

Strategies

- Conduct an inventory of plant and invertebrate species.
- Monitoring of flows and temperatures (monthly or seasonally).
- Removing concrete collection boxes.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.

- Strategic removal of unwanted vegetation (debris), when necessary, to promote natural hydrology.
- Mechanically remove berms to promote free flow where needed.
- Strategically replace/install water control structures (e.g., riser board structures) to enhance water flows from springs.

Rationale

- Unique species (plants and invertebrates) and hydrology.
- Natural/historic designation.
- BIDEH.
- Remove vegetation (debris) to promote hydrology.

Goal 2. Protect and maintain upland meadow habitat characteristic of the Glenwood Valley/Conboy Lake Region.

Objective 2.1 – Upland Meadow

Protect and maintain X-Y acres of upland meadow habitat on Conboy Lake NWR for the benefit of foraging and brood-rearing Sandhill cranes, migratory landbirds (e.g., grasshopper sparrows), raptors (e.g., northern harriers, short-eared owls), and a diverse assemblage of other native species (e.g., Mardon skippers, western yellow-bellied racers). Upland meadows are characterized by the following attributes:

- Need research into specifics (e.g., plant species composition and vertical structure).
- X% cover of native forbs.
- X% cover of native bunchgrasses (e.g., bluebunch wheatgrass).
- X% cover of invasive species.

Strategies

- Prescribed fire – fall.
- Livestock grazing – October 1 to November 30.
- Haying – August 1 to August 30.
- Mechanical techniques (e.g., mowing, mastication) to control seedling Ponderosa pine.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Selectively remove Ponderosa pine with mechanical methods.

Rationale

- Biological control of knapweed.
- BIDEH – rare, unique in landscape.
- Providing habitat for refuge purpose species such as Sandhill cranes and other migratory birds.
- Haying and grazing dates will lessen impacts to Sandhill cranes and other migratory birds and have less impacts to soils.
- Actions mimic natural processes to the extent possible and practical.
- Specific meadows.
- Late summer/fall fire, grazing and haying avoids impacts to nesting birds.
- Fall burning mimics the natural cycle.

Goal 3. Protect and maintain forest habitats characteristic of the Glenwood Valley/Conboy Lake Region.

Objective 3.1 – Ponderosa Pine

Protect and maintain X-Y acres of late succession Ponderosa pine forest on Conboy Lake NWR for the benefit of migratory birds (e.g., white-headed woodpeckers, chipping sparrows, dark-eyed juncos, Townsend's solitaires, dusky flycatchers) and a diverse assemblage of native forest-dependent species (e.g., Suksdorf's milk vetch, Pulsifer's monkeyflower). Late-succession Ponderosa pine is characterized by the following attributes:

- Dominated by large, well-spaced Ponderosa pine with lesser amounts of lodgepole pine, Douglas fir, and grand fir.
- Some areas of small trees, one to several acres in size, in even-aged groups.
- Mean canopy closure of 10-40% with 10 trees/acres >21 inches DBH with at least two trees being >31 inches DBH and with 1.4 snags/acre >8 DBH.
- Small forest openings in dry sites populated with bitterbrush and milkvetch.
- Open understory with regenerating pines.
- Interspersion of herbaceous ground cover with native shrubs (e.g., snowberry, wild rose, bitterbrush, rabbitbrush) and regenerating pine patches.
- No invasive plant species present.

Strategies

- Mechanical thinning.
- Prescribed fire – fall and spring.
- Create openings for milkvetch (fire or commercial thinning).

- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Create snags through girdling.
- Hazard fuels treatments to reduce wildfire threats.

Rationale

- Variable stand structure mimic conditions that occur naturally.
- Promotes natural processes and limits forest diseases (e.g., pine beetle).
- Certain migratory birds (e.g., white-headed woodpeckers) need snags.
- Important habitat from a landscape perspective – BIDEH.
- Milkvetch and monkeyflower are state-listed species.
- The use of hazardous fuels treatments reduces the risk of catastrophic wildfire.

Objective 3.2 – Lodgepole/Ponderosa Pine

Protect and maintain X-Y acres of lodgepole/Ponderosa pine on Conboy Lake NWR for the benefit of migratory birds (e.g., mountain chickadees, yellow-rumped warblers, Cassin's finches), nesting bald eagles, and a diverse assemblage of other native forest-dependent species (e.g., elk, deer, red squirrels, Douglas squirrels). Lodgepole/ponderosa pine is characterized by the following attributes:

- Larger, older lodgepole and Ponderosa pine.
- Small openings with small trees—one to several acres in size—in even-aged groups.
- Check PIF plan for specific attributes.
- No invasive species present.

Strategies

- Mechanical thinning to reduce stand density.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- In areas of pure lodgepole pine, create small openings to enhance structural diversity.
- Create small openings to enhance structural diversity.
- Create snags through girdling small trees in even-aged groups of one to several acres in size.
- Hazard fuels treatments to reduce wildfire threats.
- Prescribed fire – fall and spring.

Rationale

- Depending upon site conditions there may be a difference in expression of lodgepole or Ponderosa pine dominance.
- Focus on removal of smaller lodgepole to encourage Ponderosa pine.

- Enhance stand vigor and diversity.
- Natural process (e.g., prevailing winds) blow down trees and create snags.
- Creation of small openings enhances structural diversity and provides for state-listed species.
- In areas of pure lodgepole pine, the creation of small openings enhances structural diversity and stand vigor.

Objective 3.3 – Mixed Conifer

Protect and maintain X-Y acres of mixed conifer on Conboy Lake NWR for the benefit migratory birds (e.g., brown creepers, Townsend’s warblers, red-breasted nuthatches, pine siskins) and a diverse assemblage of other forest-dependent species (e.g., elk, black-tailed deer). Mixed conifer is characterized by the following attributes:

- An overstory, dense canopy dominated by Douglas, grand fir, Ponderosa pine.
- Multi-layered and structurally diverse.
- Large, well-spaced Douglas fir and Ponderosa pine at >4 trees/acre with >18 inches DBH with at least 2 trees >24 inches DBH.
- 2-5 snags/acre.
- 20% aerial coverage of scattered openings with understory shrubs (e.g., snowberry, California hazel, wild rose) and other herbaceous species (e.g., bracken fern).
- Northwest or east facing slopes.

Strategies

- Commercial thinning to reduce stand density and ladder fuels.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Create small openings to enhance structural diversity.
- Create snags through girdling small trees in even-aged groups of one to several acres in size.
- Hazard fuels treatments to reduce wildfire threats.
- Prescribed fire – fall and spring.
- Selectively remove grand fir using mechanical methods.
- Create a buffer (200 feet?) around laminated root disease areas through selective thinning.

Rationale

- Colder, wetter sites based upon aspect differences.
- Favor fire-resistant Douglas fir and Ponderosa pine over grand fir.
- Lower disease susceptibility (e.g., spruce bud worm) by reducing stand densities.
- Provides important habitat for migratory birds.
- Corridor and cover (bedding) for black-tailed deer and elk.
- Encourage natural processes (e.g., diseases creating openings) to manage stands.

Objective 3.4 – Oregon White Oak Woodland

Protect and maintain **X-Y** acres of Oregon white oak woodlands on Conboy Lake NWR for the benefit of breeding and migrating landbirds (e.g., dusky flycatchers, white-breasted nuthatches, Lewis' woodpecker), foraging Sandhill cranes, small mammals (e.g., western gray squirrels), and a diverse assemblage of oak woodland-dependent species (e.g., turkeys, deer). Oregon white oak woodlands are characterized by the following attributes:

- Oak-pine woodland with >40% native shrub cover interspersed with grassy openings and with or without scattered trees that comprise <30% canopy cover.
- Multi-layered canopy of Ponderosa pine with an upper canopy layer >46 feet.
- Sparse understory of oak with little or no shrub cover or other ground vegetation.
- Presence of snags.
- Connectivity of oaks with adjacent conifer forests.
- No invasive plants present.

Strategies

- Selectively thinning (e.g., mechanical techniques) of adjacent conifers overtopping hardwood species.
- Prescribed fire – fall or spring.
- Create snags through girdling conifers.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Create openings with mechanical techniques to allow oak recruitment.

Rationale

- Protect the vigor and growth of existing oaks.
- Ensure that conifer connectivity with adjacent forests is maintained.
- Snags provide nesting cavities and harbor invertebrates as forage for migratory birds.
- BIDEH.
- Important for achieving the refuge purpose of migratory birds.
- The western gray squirrel is a state-listed species that is dependent upon oak woodlands throughout the year.

Objective 3.5 – Quaking Aspen

Protect and maintain **X-Y** acres of quaking aspen stands on Conboy NWR for the benefit of migratory landbirds (e.g., red-naped sapsuckers, house wrens, western screech owls, tree swallows, northern flickers), raptors (e.g., sharp-shin and Cooper's hawks), and a diverse assemblage of other

native species (e.g., elk, ruffed grouse, beavers). Quaking aspen is characterized by the following attributes:

- Large aspen trees and snags with regeneration.
- Mean canopy cover of 40-80% (either clumped with patches and openings or relatively evenly distributed) with >1.5 trees and >1.5 snags/acre > 39 feet in height and 10 inch DBH.
- A >10% cover of saplings in the understory.

Strategies

- Setback from haying to promote suckering (recruitment) of aspens.
- Prescribed fire – fall.
- Discing.
- Selective thin pine to promote recruitment with, and expansion of, aspen stands with conifer forests.
- Remove conifers through mechanical techniques within established aspen stands.
- Maintain refuge boundary fences to prevent impacts to aspen stands from unauthorized grazing.
- Selectively cut back (top) or girdle large aspens to promote suckering, where necessary.

Rationale

- Grows from clones with many stems originating from the same genotype.
- Prolifically sprout from suckers.
- Young trees need light in order to develop.
- Recruits develop on the edge of clones.

Goal 4. Protect and maintain riparian habitats characteristic of the Glenwood Valley/Conboy Lake Region.

Objective 4.1 – Riparian (Alder and Willow)

Protect and maintain **X-Y** linear miles of alder/willow dominated riparian corridor on Conboy Lake NWR for the benefit of breeding and migrating landbirds (e.g., willow flycatchers, yellow warblers, song sparrows, spotted towhees), accipiters (e.g., red shouldered hawks), and a diverse assemblage of other native species (e.g., ruffed grouse, deer, elk). Alder/willow dominated riparian is characterized by the following attributes:

- Presence of riparian shrubs (e.g., willow, alder, hawthorne) across 40-80% of the riparian corridor.

Strategies

- Create setbacks from grazing/haying activities to protect riparian areas.
- Strategically remove riparian vegetation for infrastructure maintenance (e.g., dikes, ditches).
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Monitoring of riparian, especially the shrub component.
- Planting or mechanical removal of shrubs, where necessary.

Rationale

- Important frog habitat; prevent overshadowing that can impact potamogeton.
- Not providing fish habitat.
- Shrub cover supports invertebrates that provide forage for migrating birds.
- Historically riparian was not present.

Goal 5. Gather scientific information (surveys, research and assessments) to support adaptive management decisions under objectives for biological goals.

Objective 5.1 – Surveys

Throughout the life of the CCP, conduct high-priority inventory and monitoring (survey) activities that evaluate resource management and public-use activities to facilitate adaptive management. These surveys contribute to the enhancement, protection, use, preservation and management of wildlife populations and their habitats on and off refuge lands. Specifically, they can be used to evaluate achievement of resource management objectives identified under other goals in the CCP. These surveys have the following attributes:

- Data collection techniques would likely have minimal animal mortality or disturbance and minimal habitat destruction.
- Minimum number of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates, vertebrates) to meet statistical analysis requirements would be collected for identification and/or experimentation in order to minimize long-term or cumulative impacts.
- Proper cleaning of investigator equipment and clothing, as well as the use of quarantine methods, where necessary, would minimize the potential spread or introduction of invasive species.
- Projects will adhere to scientifically defensible protocols for data collection, where available and applicable.

Prioritize List of Surveys

- Inventory species present in springs.
- Monitoring flows and temperatures in springs (monthly or seasonally).
- Rare plant surveys to document the presence/absence of species (3-5 year intervals).
- Habitat use by western grey squirrels (presence/absence).
- Sandhill crane breeding pair survey.
- Sandhill crane productivity and colt survival.
- Crane population survey during fall and spring migrations.
- Oregon spotted frog egg mass survey.
- Chytrid fungus survey.
- Monitoring water levels with staff gauges of wet meadows and emergent marshes.
- Monitoring secretive marshbirds (e.g., yellow rails, bitterns).
- Invertebrate survey (e.g., Mardon skippers).
- Waterfowl survey during spring migration.
- Waterfowl pair and brood counts.
- Elk population survey.
- Bat survey.
- Deer population survey.
- Hazardous fuels reduction monitoring.
- Invasive species mapping and monitoring – EDRR.
- Aquatic invertebrate surveys.
- Presence/absence of terrestrial invertebrates.
- Small mammal inventory.
- Presence/absence of western toads.
- Pollinators.
- Coyote population survey.
- Monitoring of water rights.

Rationale

National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd-ee) requires the FWS to “. . . monitor the status and trends of fish, wildlife, and plants in each refuge.” Surveys would be used primarily to evaluate resource response to assess progress toward achieving refuge management objectives derived from the NWRS Mission, refuge purpose(s), and maintenance of biological integrity, diversity and environmental health (601 FW 3). Determining resource status and evaluating progress toward achieving objectives is essential to implementing adaptive management on Department of Interior lands as required by policy (522 DM 1). Specifically, results of survey would be used to refine management strategies, where necessary, over time in order to achieve resource objectives. Surveys would provide the best available scientific information to promote transparent decision-making processes for resource management over time on refuge lands.

Objective 5.2 – Research

Throughout the life of the CCP, conduct high-priority research projects that provide the best science for habitat and wildlife management on and off the refuge. Scientific findings gained through these projects would expand knowledge regarding life-history needs of species and species groups, as well as identify or refine habitat and wildlife management actions. Research also will reduce uncertainty regarding wildlife and habitat responses to refuge management actions in order to achieve desired outcomes reflected in resource management objectives and to facilitate adaptive management. These research projects have the following attributes:

- Adhere to scientifically defensible protocols for data collection, where available and applicable, in order to develop the best science for resource management.
- Data collection techniques would likely have minimal animal mortality or disturbance and minimal habitat destruction.
- Collect the minimum number of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates, vertebrates) to meet statistical analysis requirements for identification and/or experimentation in order to minimize long-term or cumulative impacts.
- Utilize proper cleaning of investigator equipment and clothing as well as quarantine methods, where necessary, to minimize the potential spread or introduction of invasive species.
- Often result in peer reviewed articles in scientific journals and publications and/or symposiums.

Prioritized List of Research

- Sandhill crane colt dispersal and habitat use (radio-telemetry).
- Oregon spotted frog projects, such as the fate and movement of Oregon spotted frog metamorphs.

Objective 5.3 – Scientific Assessments

Throughout the life of the CCP, conduct scientific assessments to provide baseline information to expand knowledge regarding the status of refuge resources to better inform resource management decisions. These scientific assessments will contribute to the development of refuge resource objectives and would also be used to facilitate habitat restoration through selection of appropriate habitat management strategies based upon site-specific conditions. These scientific assessments have the following attributes:

- Utilize accepted standards, where available, for completion of assessments.
- Scale and accuracy of assessments appropriate for development and implementation of refuge habitat and wildlife management actions.

Prioritized List of Scientific Assessments

- Water resources inventory (Water Resources Branch)
- NVCS habitat/vegetation map (georectified in GIS).

Toppenish National Wildlife Refuge Habitat and Wildlife Management Goals and Objectives

Issues Considered But Dismissed (Beyond the Scope of the CCP):

- Reconfiguration of headquarters units to address habitat management needs and fish passage issues (the “natural alternative” under the Yakama Nation plan).
 - » Conduct assessments necessary to support this concept.
 - » Yakima Valley has significantly changed over time; historical processes are not in place (e.g., beavers activities).
 - » Potentially does not meet refuge purpose for migratory birds.

Features Common to All Alternatives

- IPM approach.
- Land acquisition/exchanges within the approved boundary.
- Dike, delivery ditch and water control structure maintenance.
- Firebreak maintenance.
- Maintenance of boundary fencing.
- Road maintenance.
- Adaptive management.
- Beaver management where necessary.
- Acquisition of water right permits.

Goal 1. Protect and maintain wetland and aquatic habitats characteristic of the Yakima Valley.

Objective 1.1 – Semi-Permanent Wetlands

Protect and maintain **X-Y** acres of semi-permanent wetlands on Toppenish NWR for the benefit of migrating and wintering waterfowl (e.g., mallards, northern pintails, gadwalls, Canada geese), migrating and nesting shorebirds (e.g., black-necked stilts, American dunlins, greater yellow legs, western sandpipers), and a diverse assemblage of other native wildlife (e.g., winter steelhead). Semi-permanent wetlands are characterized by the following attributes:

- Water depths ranging from saturated soils to three feet.
- Inundated from August through July.
- A mosaic (50:50% ratio) of emergent (bulrushes, cattails, burreed) cover and open water.
- The presence of moist soil annuals (e.g., smartweed, wild millet) in open water.
- No purple loosestrife or flag iris.

- X% cover of other invasive plants (e.g., cocklebur, reed canarygrass).
- Limited encroachment of willows along wetland margins.

Strategies

- Water-level management (flood-ups and drawdowns using water control structures).
- Maintain existing fish screens.
- Removal or replacement of water control structures.
- Install fish screens where necessary.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Strategic mechanical removal of willows within wetland basins.
- Reduce extensive tall emergent cover (e.g., bulrushes, cattails) with prescribed fire, disking, mowing, and herbicides.
- Mowing and haying of reed canarygrass.
- Install and maintain swales to facilitate salmonid fish passage where appropriate.
- Do not divert Toppenish Creek water below 30 cfs (minimum flow established by the Yakama Nation).
- Evaluate the need for, and possibly install, a paddle wheel fish screen at Gamble Ditch.

Rationale

- Permitted water sources have differing availabilities for use—pumped water in Toppenish Creek September through June, Snake Creek water September through June, and WIP water April 1 to October 1.
- Provides important habitat for breeding and migrating waterbirds (refuge purpose).
- Habitat for listed steelhead.
- Snake Creek and WIP water sources used to supplement units later in the growing season (annual water).
- Annual variability from unit to unit where some units are flooded throughout the year.
- Shoreline/transitional zone will have willow encroachment, but do not allow willows in the wetland basins.
- Bullfrog control (tadpoles) through timely drawdowns.
- Swales are appropriate for units on the refuge to facilitate passage (no existing screens) when flooding occurs; avoid incidental take.
- Screens prevent salmonid entrapment in wetlands.
- Tall, dense emergent cover provides habitat for secretive marshbirds (e.g., Virginia rails).
- Rotations with seasonal wetlands, where possible, to provide diversity of habitats and address habitat management needs.
- Mimicking wetland habitat that historic occurred through beaver activity.
- Encroachment would produce a willow forest in wetlands if not controlled.

Objective 1.2 – Seasonal Wetlands

Protect and maintain **X-Y** acres of seasonal wetlands on Toppenish NWR for the benefit of migrating and wintering waterfowl (e.g., mallards, northern pintails), migrating and breeding shorebirds (phalaropes, black-necked stilts, American avocets), and a diverse assemblage of other wetland-dependent species (e.g., winter steelhead). Seasonal wetlands are characterized by the following attributes:

- Water depths ranging from saturated soils to 1.5 feet.
- Inundated from September/October through May.
- A mosaic (70:30% ratio) of emergent cover (bulrushes, cattails, burreed, rushes, sedged) and open water.
- The presence of moist-soil annuals (e.g., wild millet, burreed, and smartweed).
- No purple loosestrife or flag iris.
- **X**% cover of other invasive plants (e.g., cocklebur, reed canarygrass).
- Limited encroachment of willows along wetland margins.

Strategies

- Extended drawdown to provide mudflats and facilitate fish passage.
- Water-level management (flood-ups).
- Groundwater pumping.
- Maintain existing fish screens.
- Removal or replacement of water control structures.
- Install fish screens, where necessary.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Strategic mechanical removal of willows within wetland basins.
- Remove extensive emergent cover with prescribed fire, disking, mowing and herbicides.
- Mowing and haying of reed canarygrass.
- Install and maintain swales to facilitate salmonid fish passage, where appropriate.
- Do not divert Toppenish Creek water below 30 cfs (minimum flow established by the Yakama Nation).

Rationale

- Permitted water sources have differing availabilities for use—pumped water in Toppenish Creek September through June, Snake Creek water September through June, and WIP water April 1 to October 1.
- Mimics natural hydrology to the extent possible.
- Not starting drawdowns until at least May prevents cocklebur establishment/spread.
- Extended drawdowns provide mudflats and facilitate fish passage.

- Rotations with semi-permanents, where possible, provides a diversity of habitats and addresses habitat management needs (more units in seasonal component on annual basis).
- Provides habitat for aquatic migratory birds (shorebirds, secretive marshbirds, and waterfowl).

Objective 1.3 – Wet Meadows

Protect and maintain X-Y acres of wet meadows on Toppenish NWR for the benefit of migrating and wintering waterfowl (e.g., mallards, northern pintails, Canada geese) and other wildlife species (e.g., northern harriers, red-wing blackbirds, ring-necked pheasants). Wet meadows are characterized by the following attributes:

- Inundated early January through March and completely tied to hydrology in Toppenish Creek.
- Water depths are saturated soil to 6-8 inches.
- Predominately reed canarygrass with a limited cover of sedges and rushes.
- 6-8 inch vegetation height by November 1.

Strategies

- Livestock grazing from September 1 to November 30 (after haying is completed).
- Haying (1 cut) with a start date between mid-July and September 1.
- Mowing from mid July to November 30.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Maintain boundary fencing to confine grazing animals and preclude unauthorized grazing.

Rationale

- The hydroperiod is tied to Toppenish Creek flows.
- The start date for haying relates to limiting disturbance to ground nesting and migrating birds.
- Provides forage for migrating birds (waterfowl) in late fall.
- Livestock grazing is used to reduce regrowth after haying.
- Provides habitat for migratory birds and other wildlife (refuge purpose).

Objective 1.4 – In-Channel

Enhance, rehabilitate, protect and maintain X-Y miles of in-channel habitat on Toppenish NWR for the benefit of native fish (e.g., winter steelhead) and other native species (e.g., brook lamprey). In-channel habitat is characterized by the following attributes:

- Year-round (perennial) flows that are highly variable.
- Maintains/supports associated riparian habitat.
- Maintains floodplain functionality.

Strategies

- Do not divert Toppenish Creek water below 30 cfs (minimum flow established by Yakama Nation).
- Monitor water quality (e.g., sediment, nutrients, temperature) and water quantity.
- Maintain existing screens on Toppenish and Snake Creeks.
- Install screens, where necessary.
- Remove the Lateral C intake pipe for Unit 10 rehabilitation.
- Monitor steelhead passage in Lateral C and Unit 2A (free-flowing system).
- Upgrade the Snake Creek in-stream structure at Unit 2A; install a screen instead of using swales for flow through.
- Maintain the Snake Creek channel through Unit 3B.
- Ensure adequate flow through the Unit 3B outflow structure.
- Install rock structures to repair incision and reconnect the floodplain.
- Maintain in-stream flow (e.g., clear plugs, remove reed canarygrass stands).

Rationale

- Allow beaver activity to occur where it is not damaging/destroying government property and impeding water management capacity.
- Provides fish and lamprey habitat.
- Facilitates fish passage and rearing habitat associated with removal of Lateral C intake pipe, allowing a free-flowing system in Unit 10.
- Facilitates fish passage in Units 2A and 2B.
- Restores floodplain function and connectivity with rock structures.

Goal 2. Protect and maintain riparian habitats characteristic of the Yakima Valley.

Objective 2.1 – Black Cottonwood Gallery

Protect and maintain X-Y acres of black cottonwood gallery riparian on Toppenish NWR for the benefit of migrating and breeding landbirds (e.g., Bullock's orioles, yellow warblers, black-headed grosbeaks, western wood peewees), bald eagles, and a diverse assemblage of other wildlife species (e.g., deer, ring-necked pheasants, Mid-Columbia steelhead). The black cottonwood gallery is characterized by the following attributes:

- Large canopy trees in riparian woodlands with mean canopy tree height >35 feet and canopy closure between 30-60%.
- A shrub layer comprised of native species, including willow, red osier dogwood, currant, wild rose, and hawthorne.
- An herbaceous layer dominated by reed canarygrass.
- No invasive plants present within the interior of the gallery habitat.
- Limited presence of invasive plants (e.g., Russian olive, pepperweed) along the margins.

Strategies

- Allow natural processes (e.g., beaver) to occur.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Limited use of prescribed fire.
- Plant trees (e.g., whips) and shrubs, where necessary.

Rationale

- Margins are occupied by Russian olive, pepperweed and poison ivy.
- Allow beaver activity to occur, where it is not damaging/destroying government property and impeding water management capacity.
- Uncontrolled fire can be detrimental to cottonwood galleries.

Objective 2.2 – Shrub-Dominated Riparian

Protect and maintain X-Y acres of shrub dominated riparian on Toppenish NWR for the benefit of migrating and breeding landbirds (e.g., willow flycatchers, yellow warblers, song sparrows, yellow-breasted chats) and a diverse assemblage of other wildlife species (e.g, deer, ring-necked pheasants, Mid-Columbia steelhead). Shrub dominated riparian is characterized by the following attributes:

- Dense patches of native shrubs interspersed with openings of herbaceous vegetation.
- Shrub layer height > 3feet tall.
- The presence of riparian shrubs (e.g., willow, red osier dogwood, currant, wild rose, and hawthorne) across 40-80% of the riparian corridor.
- An herbaceous layer dominated by reed canarygrass.
- No invasive plants present within the interior.
- Limited presence of invasive plants (e.g., pepperweed) along the margins.

Strategies

- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Limited use of prescribed fire.
- Plant shrubs and forbs, where necessary.

Rationale

- Margins are occupied by pepperweed and poison ivy.
- Allow beaver activity to occur, where it is not damaging/destroying government property and impeding water management capacity.
- Uncontrolled fire can be detrimental to riparian composition.
- Provides habitat for migratory birds (especially migrating and nesting landbirds).

Goal 3. Protect and maintain upland habitats characteristic of the Yakima Valley.

Objective 3.1 – Greasewood

Protect and maintain X-Y acres of greasewood on Toppenish NWR for the benefit of migratory birds (e.g., loggerhead shrikes, western meadowlarks, savannah sparrows), raptors (e.g., northern harriers), and a diverse assemblage of other wildlife species (e.g., deer, California quail). Greasewood habitat is characterized by the following attributes:

- A <50% canopy cover of greasewood.
- Scattered areas with a ground cover of saltgrass and other native bunchgrasses (e.g., Great Basin wildrye).
- The presence of bare ground.
- Alkali soil dependent of habitat.
- A <30% cover of invasive species (e.g., cheatgrass, pepperweed).

Strategies

- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Plant greasewood and other native plants, where appropriate.
- Inventory species.
- Use prescribed fire.

Rationale

- Provides habitat in alkaline soils.
- Provides connectivity with Yakama Nation lands.

Objective 3.2 – Big Sagebrush

Protect and maintain **X-Y** acres of big sagebrush on Toppenish NWR for the benefit of migratory birds (e.g., loggerhead shrikes) and a diverse assemblage of other wildlife species (e.g., deer, California quail). Big sagebrush habitat is characterized by the following attributes:

- A <15% canopy cover of tall shrubs (mean height of shrubs 39").
- A <20% cover of native herbaceous species.
- A <30% cover of invasive species (e.g., cheatgrass, pepperweed).

Strategies

- Plant native bunchgrasses (e.g., Great Basin wildrye).
- Plant shrubs and native forbs, where appropriate.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.

Rationale

- Provides connectivity to Yakama Nation habitats.
- BIDEH.

Objective 3.3 – Upland Grassland

Enhance, protect and maintain **X-Y** acres of upland grassland on Toppenish NWR for the benefit of breeding and migrating landbirds (e.g., meadow larks) and other grassland-dependent species (e.g., deer, ring-necked pheasants, California quail). Upland grassland is characterized by the following attributes:

- A >50% cover of native bunchgrasses (e.g., Great basin wildrye).
- A <25% cover of shrubs (e.g., greasewood).
- A <30% cover of invasive species.
- No Russian olive.

Strategies

- Use prescribed fire.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Mowing.
- Discing as soil preparation for seeding and planting.
- Planting of native bunchgrasses and forbs.
- Planting cover crops (e.g., winter wheat) after invasive plant control and prescribed fire treatments.

Rationale

- Promotes connectivity with upland grassland habitats on Yakama Nation lands.
- BIDEH.
- Provides habitat for migratory birds.
- Planting a cover crop is protective as an intermediate rehabilitation step.

Objective 3.4 – Upland Grassland (Isiri Unit)

Rehabilitate, protect and maintain X-Y acres of upland grassland on the Isiri Unit of Toppenish NWR for the benefit of breeding and migrating landbirds (e.g., meadow larks) and other grassland-dependent species (e.g., deer, ring-necked pheasants, California quail). Upland grassland is characterized by the following attributes:

- A >50% cover of native bunchgrasses (e.g., Great basin wildrye).
- A <25% cover of shrubs (e.g., greasewood).
- A <30% cover of invasive species.
- No Russian olive.

Strategies

- Use prescribed fire.
- Use IPM techniques—including mechanical/physical, cultural, chemical and biological agents—to eradicate or control invasives.
- Mowing.
- Discing as soil preparation for seeding and planting.
- Planting of native bunchgrasses and forbs.
- Planting cover crops (e.g., winter wheat) after invasive plant control and prescribed fire treatments.

Rationale

- Promotes connectivity with upland grassland habitats on Yakama Nation lands.
- BIDEH.
- Provides habitat for migratory birds.
- No need to continue farming as there is no resource management need.

Goal 4. Gather scientific information (surveys, research, and assessments) to support adaptive management decisions under objectives for wildlife and habitat goals.

Objective 4.1 – Surveys

Throughout the life of the CCP, conduct high-priority inventory and monitoring (survey) activities that evaluate resource management and public-use activities to facilitate adaptive management. These surveys contribute to the enhancement, protection, use, preservation and management of wildlife populations and their habitats on and off refuge lands. Specifically, they can be used to evaluate achievement of resource management objectives identified under other goals in the CCP. These surveys have the following attributes:

- Data collection techniques would likely have minimal animal mortality or disturbance and minimal habitat destruction.
- Minimum number of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates, vertebrates) to meet statistical analysis requirements would be collected for identification and/or experimentation in order to minimize long-term or cumulative impacts.
- Proper cleaning of investigator equipment and clothing, as well the use of quarantine methods, where necessary, would minimize the potential spread or introduction of invasive species.
- Projects will adhere to scientifically defensible protocols for data collection, where available and applicable.

Prioritize List of Surveys

- Monitor salmonid use and passage where there has been modification of water delivery.
- Monitor water quality and water quantity in creeks and laterals.
- Hazardous fuels reduction monitoring.
- Invasive species mapping and monitoring – EDRR.
- Secretive marshbird survey.
- Waterfowl survey and pair counts.
- Riparian bird surveys.

- Greasewood/upland grassland bird survey.
- Monitoring of water rights.
- Native plant inventory.
- Wetland plant monitoring in response to management actions.
- Amphibian/reptile inventories.
- Small mammal inventory
- Invertebrate inventory.
- Monitor wildlife use in sagebrush.

Rationale

The National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd-ee) requires the FWS “. . . monitor the status and trends of fish, wildlife, and plants in each refuge.” Surveys would be used primarily to evaluate resource response to assess progress toward achieving refuge management objectives derived from the NWRs Mission, refuge purpose(s), and maintenance of biological integrity, diversity and environmental health (601 FW 3). Determining resource status and evaluating progress toward achieving objectives is essential to implementing adaptive management on Department of Interior lands as required by policy (522 DM 1). Specifically, results of survey would be used to refine management strategies, where necessary, over time in order to achieve resource objectives. Surveys would provide the best available scientific information to promote transparent decision-making processes for resource management over time on refuge lands.

Objective 4.2 – Research

Throughout the life of the CCP, conduct high-priority research projects that provide the best science for habitat and wildlife management on and off refuges. Scientific findings gained through these projects would expand knowledge regarding life-history needs of species and species groups, as well as identify or refine habitat and wildlife management actions. Research also will reduce uncertainty regarding wildlife and habitat responses to refuge management actions in order to achieve desired outcomes reflected in resource management objectives and to facilitate adaptive management. These research projects have the following attributes:

- Adhere to scientifically defensible protocols for data collection, where available and applicable, in order to develop the best science for resource management.
- Data collection techniques would likely have minimal animal mortality or disturbance and minimal habitat destruction.
- Collect the minimum number of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates, vertebrates) to meet statistical analysis requirements for identification and/or experimentation in order to minimize long-term or cumulative impacts.

- Utilize proper cleaning of investigator equipment and clothing as well as quarantine methods, where necessary, to minimize the potential spread or introduction of invasive species.
- Often result in peer reviewed articles in scientific journals and publications and/or symposiums.

Prioritized List of Research

- Movement and habitat use of smolt steelhead.

Objective 4.3 – Scientific Assessments

Throughout the life of the CCP, conduct scientific assessments to provide baseline information to expand knowledge regarding the status of refuge resources to better inform resource management decisions. These scientific assessments will contribute to the development of refuge resource objectives and they would also be used to facilitate habitat restoration through selection of appropriate habitat management strategies based upon site-specific conditions. These scientific assessments have the following attributes:

- Utilize accepted standards, where available, for completion of assessments.
- Scale and accuracy of assessments would be appropriate for development and implementation of refuge habitat and wildlife management actions.

Prioritized List of Scientific Assessments

- Water resources inventory (Water Resources Branch).
- NVCS habitat/vegetation map (geo-rectified in GIS).
- Assess contaminant loads in biota (e.g., fish), plants and sediments.
- Assess upland site-specific conditions to determine appropriate management direction.

Conboy Lake National Wildlife Refuge Visitor Services and Other Management Goals and Objectives

Wildlife-dependent Recreation Goal: Wildlife-dependent recreation of the Conboy Lake NWR will foster understanding, appreciation and support of the refuge and the Camas Prairie ecosystem, all the while protecting the unique natural, cultural and scenic resources of the refuge.

Objective 1 – Hunting

Objective 2 – Fishing

Objective 3 – Wildlife Observation

Objective 4 – Hiking

- Willard Springs Trail.
- Enhance the trail system around the headquarters.

Objective 5 – Auto Tour Route

Objective 6 – Volunteers

- Provide full-time volunteers from May-September to staff a Visitor Contact Station to assist and orient visitors on the refuge).

Environmental Education and Interpretation Goal: Visitors to the refuge will enjoy wildlife-dependent education programs that inspire people to care about Conboy Lake NWR, its resources, and the natural environment.

Objective 1 – Environmental Education

- Enhance partnerships with the Spring Creek Fish Hatchery and the Columbia Gorge Institute to provide curriculum-based educational programs both on and off the refuge.

Objective 2 – Interpretation

- Develop educational materials.

Cultural Resources Goal: The cultural resources and cultural history of the refuge are valued and preserved and connect refuge staff, visitors and the community to the area's past.

Objective 1 – Cultural Resources Management Plan

Objective 2 – Inadvertent Discovery Plan/Policy

Objective 3 – Historic Preservation

- Whitcomb Cabin.

Objective 4 – Build Yakama Nation Partnerships

Toppenish National Wildlife Refuge Visitor Services and Other Management Goals and Objectives

Wildlife-dependent Recreation Goal: Wildlife-dependent recreation of the Toppenish NWR will foster understanding, appreciation and support of the refuge and the Yakima Valley ecosystem, all the while protecting the unique natural, cultural and scenic resources of the refuge.

Objective 1 – Hunting

Objective 2 – Wildlife Observation

Objective 3– Hiking

- Build a trail system.

Objective 4– Volunteers

- Provide full-time volunteers from May-September to assist and orient visitors on the refuge).

Environmental Education and Interpretation Goal: Visitors to the refuge will enjoy wildlife-dependent education programs that inspire people to care about Toppenish NWR, its resources, and the natural environment.

Objective 1 – Environmental Education

Objective 2 – Interpretation

- Develop educational materials.
- History and science of water management.

Cultural Resources Goal: The cultural resources and cultural history of the refuge are valued and preserved and connect refuge staff, visitors and the community to the area's past.

Objective 1 – Cultural Resources Management Plan

Objective 2 – Inadvertent Discovery Plan/Policy

Objective 3 – Build Yakama Nation Partnerships

Conboy Lake National Wildlife Refuge GIS Needs Assessment

Hardware and Software

The new office at Conboy Lake National Wildlife Refuge (CLNWR) has two computers, either of which meets the system requirements for installing the latest version of ArcGIS (v 9.3.1). Also, the Refuge Manager has a laptop computer that will accommodate the installation of this software. It is assumed, however, that most of the GIS work will be done by Lindsey Hayes in the Mid-Columbia River National Wildlife Refuge Complex (MCRNWRC) headquarters, where the GIS data is stored. Remote access to MCRNWRC files through the internet is possible, but the file sizes involved make this an impractical way to work. Therefore, whenever there is a need for GIS capabilities at the refuge, the appropriate files can be placed on the hard drives of any or all of these computers.

Maps Needed

- Location / Vicinity
- Surrounding Land Ownership
- Habitat Management
- Sensitive Wildlife
- Alternatives
- Refuge Boundary / Land Status
- Habitat (8 or 9 Types)
- Noxious Weeds
- Public Use / Facilities

GIS Files Necessary to Produce Maps

Boundary

The official CLNWR boundary file provided by the Regional Office is inaccurate. The Regional Office has been advised of this. According to the Regional Office, there may not be a “quick fix” for some of the issues within the boundary file. We will be kept apprised of any updates or changes. The current boundary file is probably adequate for scales that depict the entire refuge and beyond, but the displaced boundaries become obvious at larger scales showing small portions of the refuge.

One complicated issue involves that portion of the lake bed that is not within the official refuge boundary, but is, and has been, managed by U.S. Fish and Wildlife Service (FWS) for years. It seems prudent to somehow resolve this issue before the CCP and whatever maps it contains is released for public comment.

Habitat and Vegetation

Habitat types will be digitized from National Agriculture Imagery Program (NAIP) imagery (2006 and 2009; 2002 near-infrared imagery is also available). The Refuge Manager will outline the polygons on large hard copies, and Lindsey will digitize them to produce a habitat/vegetation shapefile. Rare plant data are available, but not necessarily in digital format. These data could be digitized to produce a map of rare plant occurrences and species distribution. A soils layer for Klickitat County has been downloaded from the Natural Resources Conservation Service Geospatial Data Gateway.

More current data are needed to produce a noxious weeds layer. Currently there is one shapefile depicting the location of scotch broom along a portion of Bird Creek in 2006 and a 2005 database file with waypoints for knapweed patches of varying radii.

Land Ownership

Parcel data for Klickitat County is available in shapefile format. These data should provide ownership information for surrounding lands.

Wildlife

Considerable GPS data has been collected for the Oregon spotted frog and could be made into a GIS layer with little effort. The data for Sandhill cranes are more limited; a little information is available on nest locations and territories.

Various Maps

Specific layers depicting components of the refuge infrastructure will be needed for some of the maps above. The infrastructure layers for CLNWR are relatively complete. Whatever layers might be lacking can be obtained in the field with GPS or by digitizing on the GIS using current imagery.

Toppenish National Wildlife Refuge GIS Needs Assessment

Hardware and Software

The desktop computer in the maintenance shop at Toppenish National Wildlife Refuge (TNWR) most likely meets the system requirements for installing the latest version of ArcGIS (v 9.3.1). Also, the Refuge Manager has a laptop computer that could accommodate the installation of this software. It is assumed, however, that most of the GIS work will be done by Lindsey Hayes in the Mid-Columbia River National Wildlife Refuge Complex (MCRNWRC) headquarters, where the GIS data is stored. Remote access to MCRNWRC files through the internet is possible, but the file sizes involved make this an impractical way to work. Therefore, whenever there is a need for GIS capabilities at the refuge, the appropriate files can be placed on the hard drives of any or all of these computers.

Maps Needed

- Location / Vicinity
- Surrounding Land Ownership
- Habitat Management
- Sensitive Wildlife
- Alternatives
- Refuge Boundary / Land Status
- Habitat (5 or 6 Types)
- Noxious Weeds
- Public Use / Facilities

GIS Files Necessary to Produce Maps

Boundary

The official TNWR boundary file provided by the Regional Office is inaccurate. The Regional Office has been advised of this. The response from the Regional Office indicated that resolution of these issues might require a contract survey. We will be kept apprised of any updates or changes made. The current boundary file is probably adequate for scales that depict the entire refuge and beyond, but the displaced boundaries become obvious at larger scales showing small portions of the refuge.

Habitat and Vegetation

Habitat types will be digitized from National Agriculture Imagery Program (NAIP) imagery (2006 and 2009; 2003 color infrared imagery is also available). The Refuge Manager will outline the polygons on large hard copies and Lindsey will digitize them to produce a habitat/vegetation shapefile. A soils layer for Yakima County has been downloaded from the Natural Resources Conservation Service Geospatial Data Gateway.

No data are available on the distribution of noxious weeds. The distribution of at least some of these should probably be mapped.

Land Ownership

Parcel data for Yakima County is available in shapefile format. This file provides the names of the land owners for some of the surrounding lands. The assessor number is available for all parcels, so it is likely the landowner could be determined by contacting the county with this information.

Wildlife

There is little in the way of spatial data for wildlife species at TNWR. Steelhead is the major sensitive species. Toppenish and Snake Creeks, steelhead habitat on the main part of the refuge, have been digitized.

Various Maps

Specific layers depicting components of the refuge infrastructure will be needed for some of the maps above. The good news is that the infrastructure layers for TNWR are relatively complete. Most of what might be lacking can be obtained in the field with GPS or by digitizing on the GIS using current imagery.

Conboy Lake & Toppenish National Wildlife Refuges Notice of Intent to Prepare a Comprehensive Conservation Plan

Billing Code:

DEPARTMENT OF THE INTERIOR

U.S. Fish and Wildlife Service

Conboy Lake National Wildlife Refuge, Klickitat County, and Toppenish National Wildlife Refuge,
Yakima County, Washington

[FWS-R1-R-2010-N0XXXX]

[1265-0000-10137-S3]

AGENCY: U.S. Fish and Wildlife Service, Interior.

ACTION: Notice of intent to prepare comprehensive conservation plans and environmental assessments; announcement of public open house meetings; and request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service) intend to prepare a Comprehensive Conservation Plan (CCP) for both the Conboy Lake National Wildlife Refuge, located in Klickitat County, Washington, and the Toppenish National Wildlife Refuge, located in Yakima County, Washington. We will also prepare an environmental assessment (EA) for each refuge to evaluate the potential effects of various CCP alternatives. This notice also announces public open house meetings; see SUPPLEMENTARY INFORMATION for details. This notice is being issued in

compliance with our CCP policy to advise other agencies and the public of our intentions and to obtain suggestions and information on the scope of issues to be considered during the planning process.

DATES: Please provide written comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Public open house meetings will be held on [DETAILS TO BE ADDED AFTER CLEARANCE]. See SUPPLEMENTARY INFORMATION for additional information.

ADDRESSES: Additional information concerning the refuges and the CCPs is available on the internet at <http://www.fws.gov/mcriver/>. Send your comments or requests for more information to us as follows:

- U.S. Mail: Conboy Lake and Toppenish CCP, U.S. Fish and Wildlife Service, 64 Maple Street, Burbank, Washington 99323.
- Fax: (509) 546-8303
- E-mail: mcriver@fws.gov. Include "Conboy Lake NWR CCP Scoping Comments" or "Toppenish NWR CCP Scoping Comments" in the subject line of the message. If you would like to be added to the mailing list for the CCP, please include your mailing address and specify whether you want to receive a hard copy or CD-ROM of the draft and final plans.

Please note that your name and address could be released subject to requests under the Freedom of Information Act.

FOR FURTHER INFORMATION CONTACT: Shannon Ludwig, Refuge Manager, Conboy Lake and Toppenish National Wildlife Refuges, telephone (509) 865-2405.

SUPPLEMENTARY INFORMATION: The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, (16 U.S.C. 668dd-668ee), requires the Service to develop a CCP for each national wildlife refuge (NWR) and to update it every 15 years. The purpose of developing a CCP is to provide the refuge managers with a 15-year strategy for achieving refuge purposes and contributing toward the mission of the National Wildlife Refuge System (Refuge System), consistent with sound principles of fish and wildlife management, conservation, legal mandates and our policies. In addition to outlining broad management direction for conserving wildlife and their habitats in CCPs, we also identify wildlife-dependent recreational opportunities that are compatible with a refuge's establishing purposes and the mission of the Refuge System, including opportunities for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

The Service will prepare EAs in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.); NEPA Regulations (40 CFR parts 1500–1508); other appropriate Federal laws and regulations; and our policies and procedures for compliance with those laws and regulations.

Each unit of the Refuge System is established to fulfill specific purposes. We use these purposes to develop and prioritize management goals and objectives within the Refuge System mission and to guide which public uses will occur on a refuge.

Public Involvement

As part of CCP planning, we will provide opportunities for the public, refuge neighbors, interested individuals and organizations, Native American tribes, elected officials, and local, State, and Federal government and nongovernment stakeholders to participate in our planning process. At this time, we are requesting input in the form of issues, concerns, ideas and suggestions for the future management of the Conboy Lake and Toppenish NWRs.

Information about CCPs

During the CCP planning process, many elements of refuge management will be considered, including wildlife and habitat protection and management and management of visitor services programs. Public input during the planning process is essential. The CCP will describe the refuge purposes and desired conditions for the refuge and the long-term conservation goals, objectives and strategies for fulfilling the purposes and achieving those conditions.

Refuge Overviews

Conboy Lake NWR covers approximately 9,100 acres in the transition zone between arid eastern Washington and wet western Washington near the southern base of Mt. Adams. The refuge is comprised of a wide variety of habitat types, from the lake itself to wet meadows to Ponderosa pine and oak forests. Because of its varied habitats, and its location in the transition zone, the refuge supports an abundance of wildlife species. Mink and muskrat depend on the lake and other wetlands. Migrating neotropical birds pass through the refuge, and birds of prey, such as red-tailed hawks, hunt for rodents and other small mammals living in the refuge's meadows. Greater Sandhill

cranes nest and raise their young in the refuge's wetlands. Elk forage in the meadows and use the refuge's woodlands for cover.

However, Conboy Lake NWR was established primarily to benefit waterfowl. It fills an important role in the management of mallard, northern pintail and tundra swan during migration periods and is both a migratory stopover area and breeding site for the Pacific Coast population of the greater Sandhill crane. It is located along the Pacific Flyway and has become a particularly important stop-over and wintering ground for migratory birds and waterfowl. While no specific purposes exist in legislation for Conboy Lake NWR, the refuge was established under the authority granted the Migratory Bird Conservation Commission (MBCC), which has as its mandate ". . . the acquisition of areas of land and water to furnish in perpetuity reservations for the adequate protection of [migratory waterfowl] . . .". Under the authorities of the Migratory Bird Conservation Act, the MBCC created Conboy Lake NWR because "[r]estoration of these lands [i.e., "hay lands"] to former wetland habitat and stabilization of spring and summer water levels in managed impoundments will insure greater waterfowl nesting and production of aquatic vegetation for all seasons' use." (MBCC Meeting, August 10, 1964) "Proposed water development and management will be based primarily on the needs for nesting waterfowl with secondary benefits to migrating ducks and geese." (MBCC Meeting, August 10, 1964) Other MBCC meetings adding acreages to the Conboy Lake NWR made similar references to migrating and nesting waterfowl.

Conboy Lake NWR was and is important to humans, as well. Native Americans used the area extensively, and evidence of their past and ongoing use can be found. A rich history of use by European settlers is evident through treasures such as the Whitcomb-Cole Hewn Log House. Current use is also important, and a variety of visitor services and activities take place on the refuge,

including hiking, scenic drives, fishing, hunting, wildlife observation and photography, natural and cultural resources interpretation, and environmental education.

Toppenish NWR was established to “. . . maintain wintering habitat for ducks and geese . . .”, “. . . provide protection and habitat for wildlife species other than waterfowl . . .” and “provide opportunities to the general public for a variety of wildlife-oriented recreational activities.” Located in arid eastern Washington, approximately 40 miles north of the Oregon border, most of the refuge’s 2,000 acres are nonetheless focused around water. An extensive system of managed and unmanaged wetlands fills an important role in the management of mallard, northern pintail and lesser Canada goose populations during migration and winter periods. It too is located along the Pacific Flyway and has become a particularly important stop-over and wintering ground for migratory birds and waterfowl. Numerous raptors use the refuge, including bald and golden eagles, ferruginous hawks, prairie falcons and great horned owls. Endangered Columbia River steelhead smolts pass through the refuge as well.

Although much of the current use of Toppenish NWR is centered around a vigorous hunting program for waterfowl and upland game birds, other visitor activities take place on the refuge, including hiking, photography, wildlife observation, and environmental education.

Preliminary Issues and Concerns

We have identified the following preliminary issues, concerns and opportunities that we may address in the CCP. During public scoping, we will identify additional issues.

Conboy Lake NWR

1) Land Acquisition/Exchanges/Conservation Agreements. How will the refuge acquire inholdings? If the refuge is unable to acquire inholdings, what actions will be pursued in order to provide suitable wildlife habitat, e.g. water management?

2) Water Rights. Does Conboy Lake NWR receive all of its allotted water? How will the refuge manage points of diversion within private lands? How will the refuge manage untimely water delivery actions by other users that affect refuge management? What are the water rights associated with springs?

3) Water Management. How will Conboy Lake NWR manage water to provide suitable wildlife habitat with respect to private lands? What is the most efficient use of delivery water within the refuge? How will the refuge manage water delivery system maintenance? What actions should the Service take to sustain and restore priority habitats over the next 15 years?

4) Wet Meadow and Riparian and Stream Habitat Management. What actions should the Service take to sustain and restore priority habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland habitats? How will the Service manage the long-term viability of wet meadows in response to pine encroachment? How will the Service approach managing or controlling reed canarygrass?

5) Short-Grass Management (Wet Prairie and Upland Meadow). What actions should the Service take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland habitats? How should the refuge consider utilizing haying, grazing, or prescribed fire as management tools? What alternative options exist in the absence of a haying program? How will the Service approach managing or controlling reed canarygrass?

6) Upland Meadow Management. What actions should the Service take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on upland habitats? How will the Service manage the long-term viability of upland meadows in response to pine encroachment? How should Conboy Lake NWR consider utilizing haying, grazing, or prescribed fire as management tools?

7) Forest Management. What actions should the Service take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on forested habitats? How should Conboy Lake NWR consider utilizing commercial thinning and prescribed fire as management tools?

8) Invasive and Non-native Plants and Wildlife. How will the Service control invasive species and prevent new invasives from becoming established? What are the most appropriate strategies for controlling invasive species on the refuge?

9) Oregon Spotted Frog Management. What is the Conboy Lake NWR's role in assisting in Oregon spotted frog recovery, while at the same time meeting refuge purposes to provide migration habitat for waterfowl? What actions can be taken to protect and restore habitat values for Oregon spotted frogs?

10) Rare Plant Management. What is Conboy Lake NWR's role in assisting in rare plant recovery, while at the same time meeting refuge purposes to provide migration habitat for waterfowl? What actions can be taken to protect and restore habitat values for rare plants?

11) Sandhill Crane Management. What is Conboy Lake NWR's role in assisting in greater Sandhill crane recovery, while at the same time meeting refuge purposes to provide migration and

habitat for waterfowl? What actions can be taken to protect and restore habitat values for greater Sandhill cranes?

12) Elk Management. What is Conboy Lake NWR's role in managing elk within the state's elk management unit? Is elk hunting a viable public use opportunity on the refuge?

13) Waterfowl and Waterbirds. Where should specific waterfowl management tools and techniques be utilized? What role should Conboy Lake NWR play in providing migrating waterfowl habitat and hunting areas within the Pacific Flyway?

14) Wildlife-dependent Uses. What types of improvements to wildlife-dependent uses can be provided to enhance public enjoyment and ensure a quality experience for refuge visitors? How will Conboy Lake NWR meet the increasing demand for safe, accessible, high-quality wildlife-dependent recreation opportunities in the future? How will the refuge provide visitors with safe and ADA-compliant access? How will the refuge improve the quality of the hunting program? How will Conboy Lake NWR address the impacts of increasing visitation on wildlife and minimize impacts to priority species?

15) Effective Law Enforcement. How does Conboy Lake NWR create a stronger law enforcement presence to better facilitate effective management, reduce law enforcement violations and reduce user group conflicts?

16) Impacts of Development and Climate Change. How should Conboy Lake NWR address the impact of increasing development—and ultimately a reduction in open space—of adjacent lands on its wildlife and habitat? How will the refuge address the potential impacts of climate change?

17) Staffing. What staffing levels are needed to maintain current management operations at Conboy Lake NWR? How will the refuge address staffing limitations?

Toppenish NWR

1) Wildlife and Habitat Management. What actions should the Service take to sustain and restore priority species and habitats over the next 15 years? What habitat conditions should be targeted and rehabilitated on wetland and upland habitats? How should the refuge consider utilizing haying and grazing as management tools?

2) Water Rights. Has Toppenish NWR secured all of the necessary permitted water sources? What alternatives exist to utilize non-pumped (free) water for the wetlands?

3) Wetland Management. What percentage of Toppenish NWR should be maintained as intensively managed habitats that primarily benefit migrating waterfowl? How can the refuge best manage the wetlands to provide the greatest benefits to waterfowl and steelhead?

4) Waterfowl Management. Where should waterfowl management tools and techniques, including provision of cropping areas and sanctuary areas, be utilized? What role should Toppenish NWR play in providing wintering waterfowl habitat and hunting areas within the Mid-Columbia Basin? Should the refuge provide crops for migratory waterfowl?

5) Invasive Species. How will TNWR control invasive species and prevent new invasives from becoming established? What are the most appropriate strategies for controlling invasive species on the refuge?

6) Rare and Listed Species Recovery. What is TNWR's role in assisting in Mid-Columbia River Steelhead recovery, while at the same time meeting refuge purposes to provide migration and wintering habitat for waterfowl? What actions can be taken to protect and restore habitat values for other declining species?

7) Impacts of Development and Climate Change. How should Toppenish NWR address the impacts of increasing development of adjacent lands on its wildlife and habitat? How will the refuge address the potential impacts of climate change?

8) Contaminants and Water Quality. How should Toppenish NWR monitor for contaminants and address contaminant and water quality issues? How will the refuge improve conditions in its instream habitat for native fish?

9) Wildlife-dependent Uses. What types of improvements to wildlife-dependent uses can be provided to enhance public enjoyment and ensure a quality experience for refuge visitors? How will Toppenish NWR meet the increasing demand for safe, accessible, high-quality wildlife-dependent recreation opportunities in the future? How will the refuge provide visitors with safe and ADA-compliant access? How will the refuge improve the quality of the hunting program? How will Toppenish NWR address the impacts of increasing visitation on wildlife and minimize impacts to priority species?

10) Effective Law Enforcement, Outreach and Prevention of Illegal Uses. How does TNWR create a stronger law enforcement presence to better facilitate effective management, reduce law enforcement violations and reduce user group conflicts?

11) Staffing. What staffing levels are needed to maintain current management operations at Conboy Lake NWR? How will the refuge address the staffing limitations?

Public Open House Meetings

A public open house meeting will be held for Conboy Lake NWR on [DATE TO BE DETERMINED] at the Grange Hall, 316 East Main, Glenwood, WA 98619, to provide information

on the CCP and receive public comments. A public open house meeting will be held for Toppenish NWR on [DATES TO BE DETERMINED] at [TO BE DETERMINED] to provide information on the CCP and receive public comments. Opportunities for public input will be announced throughout the CCP planning processes.

Public Availability of Comments

All comments and materials we receive from individuals on our NEPA documents become part of the official public record. We will handle requests for such comments in accordance with the Freedom of Information Act, NEPA, and other Department of the Interior and Service policies and procedures. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated:

Robyn Thorson, Regional Director, Region 1

Portland, Oregon